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LIBRARY
OF THE
UNIVERSITY OF ILLINOIS.

ANNUAL REPORT

of the

UNIVERSITY OF MAINE

For the Year Ending June 30, 1910



Reports of the Trustees, Treasurer, President and
Faculty V

ANNUAL REPORT

OF THE

UNIVERSITY OF MAINE

FOR THE YEAR ENDING JUNE 30, 1910

REPORTS OF THE TRUSTEES, TREASURER,
PRESIDENT AND FACULTY

Printed for the University
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1910

ANNUAL REPORT

UNIVERSITY OF MICHIGAN

FOR THE YEAR ENDING JUNE 30, 1910

REPORT OF THE CHIEF OF THE
LIBRARY AND MUSEUM

LIBRARY OF THE
UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN
1910

C M25B 1909/10-1927/28 CONTENTS

	PAGE
Report of the President of the Board of Trustees.....	5
Report of the Treasurer of the University.....	7
Report of the President of the University.....	19
Report of the Dean of the University.....	32
Report of the College of Law.....	35
Report of the College of Arts and Sciences.....	37
Report of the College of Technology.....	40
Report of the College of Agriculture	43
Report of the Librarian.....	46
Report of the Department of Greek and Classical Archæology.....	52
Report of the Department of Latin.....	54
Report of the Department of English.....	55
Report of the Department of Romance Languages.....	57
Report of the Department of German.....	58
Report of the Department of History.....	59
Report of the Department of Economics and Sociology	60
Report of the Department of Mathematics and Astronomy.....	61
Report of the Department of Education.....	63
Report of the Department of Philosophy.....	65
Report of the Department of Physics.....	66
Report of the Department of Biology.....	68
Report of the Museum of Natural History.....	69
Report of the Department of Chemistry.....	70
Report of the Department of Pharmacy.....	72
Report of the Department of Civil Engineering.....	73
Report of the Department of Mechanical Engineering.....	75
Report of the Department of Electrical Engineering.....	79
Report of the Department of Mechanics and Drawing.....	81
Report of the Department of Physical Culture and Athletics.....	82
Report of the Department of Military Science and Tactics.....	83
Report of the Department of Horticulture.....	85
Report of the Department of Agronomy	87
Supplemental Report on Farm Management and Agricultural Engineering	90
Report of the Department of Animal Industry.....	91
Report of the Department of Poultry Husbandry.....	93
Report of the Department of Biological and Agricultural Chemistry	95
Report of the Department of Bacteriology and Veterinary Science.	97
Report of the Department of Forestry.....	98
Report of the Department of Domestic Science.....	102
Report of the Division of Agricultural Extension.....	104
Supplemental Report of the Newly Appointed Director of Agricultural Extension Work.....	106

REPORT OF THE BOARD OF TRUSTEES

To the Honorable Governor and Executive Council of Maine:

The trustees of the University of Maine respectfully submit their 42nd annual report with the report of the President and Treasurer.

There has occurred in the past year no change in the Board of Trustees.

Since the last report the University has suffered a severe loss in the resignation of its President, George Emory Fellows, Ph. D., LL. D. Dr. Fellows began his term of office at Orono on January 1st, 1902.

The entrance of Dr. Fellows as head of the faculty marked a new era in the history of the University. The attendance increased by bounds notwithstanding the entrance requirements were made stricter and the courses of study more exacting. The University went through a process of modernizing and today stands with the first in regard to standards of scholarship.

With the improvements at Orono came an increased interest from the people of the State, which resulted in larger appropriations from the Legislature.

Under Dr. Fellows, the summer term was first held, in spite of discouragements and opposition. The result shows an increase of attendance from 13 in 1902 to 153 during the past summer. Perhaps the most conspicuous achievements of President Fellows in connection with the University, outside the general administration, were the authorization by the State of admission to the Carnegie Foundation, the obtaining of the Carnegie Library, and his able handling of the University's case before the State Committee in 1907 which refused to abolish the B. A. degree and restrict the liberal arts work to such courses as are absolutely necessary to technical students. Dr. Fellows has resigned to take up work in another field, but he has left a record at Orono for earnestness and progression that will stand forever.

Dr. Fellows' successor, the new President, is Robert J. Aley, Ph. D., LL. D. The Board of Trustees made a thorough canvass of the workers in the educational field before making this selection and feel that the future will confirm their judgment. Dr. Aley comes to the University with the strongest recommendations from the heads of all the institutions with which he has been connected, and also the Governor and Board of Public Instruction of the State of Indiana, where he resigned the office of Superintendent to come to Orono. A full account of Dr. Aley's life work will be found in another part of this book.

During the months of Dr. Fellows' leave of absence, Prof. J. N. Hart was elected Acting President and conducted the affairs of the University in an able manner.

There have been many changes in the faculty during the past year, all of which are referred to in the report of President Fellows, and the Board of Trustees has endeavored to increase the efficiency of its teaching force in all changes.

The campus as in former years has received careful attention and shows marked improvement. Grading and beautifying the grounds around the buildings has added to the general neat appearance.

During the past year a new dormitory has been erected on the campus, and will be ready for occupancy in a few weeks now. The building is red brick relieved by cast limestone trimmings. This new building will furnish ample accommodations for 75 or 80 students, and was planned along the most modern lines in dormitory building.

The College of Law has passed through another of its most successful years. During the ensuing year the entrance requirements will be increased, and a number of lecturers added to its already large lecturing force.

In regard to the most pressing needs of the University, a great deal could be said. It appears however at the present time the most urgent requirement is that of a laboratory building either for chemistry or physics, or both. The combined laboratory probably could be built more economically than two separate ones.

The last Legislature having provided for maintenance for four years from 1909 until 1912 may not feel it would be possible to make any appropriations for new buildings. While much is necessary in the way of farm buildings and dairy improvements, the Trustees were waited upon by a committee from the Maine Dairymen's Assn. and Live Stock Assn. urging that better accommodations should be furnished these departments, and it is the opinion of the Board of Trustees that such improvement should be made when the State feels it possible to appropriate money for same.

The undergraduates have never shown more interest in the affairs of the University. The Trustees have taken a keen interest in all athletics and realize that the University cannot help but be benefited by clean sports.

The general health of the upwards of 1000 people connected with the University has been excellent.

At no time during the existence of the University has a greater interest been shown in the Department of Agriculture.

Respectfully submitted,

EDWARD B. WINSLOW,

President Board of Trustees, University of Maine.

REPORT OF THE TREASURER

FOR THE FISCAL YEAR ENDED JUNE 30, 1910

ASSETS

Trust Fund Investment:

Coburn Trust Fund, Schedule A	\$100,000 00	
U. S. Land Scrip Fund, Schedule A	118,300 00	
Nehemiah Kittredge Loan Fund, Schedule B..	1,248 37	
Kidder Scholarship Fund, Schedule B	1,166 89	\$220,715 26

Land & Buildings, Schedule C	451,606 37	
Inventories, Schedule D	176,891 30	
Accounts Receivable, Schedule E	25,952 13	
General Appropriation, State of Maine, Schedule F	33,856 38	
Bills Receivable, Schedule G	4,979 17	
Cash on hand—June 30, 1910, Schedule H	1,389 16	
		<u>\$915,389 77</u>

LIABILITIES

Trust Funds:

Coburn Trust Fund	\$100,000 00	
U. S. Land Scrip Fund	118,300 00	
Nehemiah Kittredge Loan Fund	1,250 73	
Kidder Scholarship Fund	750 00	\$220,300 73

Bills Payable, Schedule I	59,500 00	
Accounts Payable, Schedule J	18,569 45	
Surplus	617,019 59	
		<u>\$915,389 77</u>

SCHEDULE A—ASSETS

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, dated Feb. 5, 1889, due July 1, 1917, bearing interest at 4% per annum, of the par value of..... \$100,000 00

United States Land Scrip Trust Fund Investment:

Under the provisions of An Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has realized an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1889, due June 1, 1919, bearing interest at 5% per annum, of the par value of \$118,300 00

NOTE: All of the foregoing described bonds are deposited with the Treasurer of the State of Maine.

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same loans are made to needy students in the three upper classes. It is now invested as follows:

Eighteen promissory notes, signed by present and former students of the University, and aggregating, exclusive of accrued interest,	\$ 861 93
On Deposit in Bangor Savings Bank, as per Deposit Book, No. 45602	386 44
	<hr/>
	\$1,248 37

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder of Denver, Colorado, class of 1879, providing for the award of scholarship to a member of the junior class, selected by the President and Faculty.

Original Fund	\$ 750 00
Accrued Interest	416 89
	<hr/>
	\$1,166 89

Total Amount on Deposit in Bangor Savings Bank, as per Deposit Book, No. 45603.

SCHEDULE C—ASSETS

Lands and Buildings:

Alumni Hall	\$ 31,979 80
Wingate Hall	25,143 93
Coburn Hall	28,203 80
Fernald Hall	30,000 00
Lord Hall	38,337 48
Carnegie Library	50,985 06
Agricultural Building	45,207 85
Stock Judging Pavilion	4,292 46

Oak Hall	40,000 00
Mt. Vernon House	3,500 00
Commons	6,000 00
Horticultural Building	2,500 00
Observatory	500 00
Heating Plant	55,652 47
Power House	1,000 00
Store House, old Art Guild	500 00
Infirmary	700 00
Janitor's House	1,000 00
Farm Buildings	25,066 61
Theta Epsilon House	3,500 00
Two Waiting Rooms	200 00
Old Pumping Station	1,200 00
Store House, Tools, etc.	500 00
Faculty Houses	26,235 65
Locomotive House	200 00
Campus and Farm Land	11,000 00
Alumni Field	1,000 00
Standpipe and Fixtures	1,000 00
Woodward Farm	3,000 00
Kappa Sigma House.....	5,400 00
New Dormitory	7,588 59
New Waiting Room	212 67
	<hr/>
	\$451,606 37

SCHEDULE D—ASSETS

Inventories:

Repairs to Buildings	\$ 46 20
Furnishings & Fixtures	5,201 40
Insurance	1,739 97
Grounds	1,005 85
University Inn	2,191 65
Mount Vernon House	948 19
Oak Hall	159 65
Commons	1,119 28
Supplies, Heat, Light & Power	467 90
Coal	4,350 00
Civil Engineering	6,009 00
Electrical Engineering	7,048 34
Forestry	1,580 15
Law School	900 50
Law Library	9,405 41
Library	41,257 25
Mathematical Science	3,327 25
Mechanical Engineering	32,419 14
Mechanics & Drawing	772 00

Military Science	468 75
Museum	9,807 03
Physical Training	1,883 50
Latin	95 10
Education	53 00
History	111 00
Economics & Sociology	41 00
Greek	1,198 00
Philosophy	366 50
Advertising	686 20
Commencement	188 30
Office Supplies & Postage	308 62
Diplomas	60 20
Locker Account	680 00
Equipment (College of Agriculture)	9,304 57
Cows (College of Agriculture)	3,458 00
Poultry (College of Agriculture)	569 55
Other Live Stock (College of Agriculture)	984 00
Feed (College of Agriculture)	411 05
Sundry Supplies & Misc. (College of Agriculture)	679 10
Repairs	100 40
Domestic Science	425 22
Bacteriology & Vet. Science	1,454 75
Biology	7,672 20
Biological & Agricultural Chemistry	742 00
Chemistry	8,304 49
Pharmacy	288 46
Physics	6,601 18
	<hr/>
	\$176,891 30

SCHEDULE E—ASSETS

Accounts Receivable:

This account represents funds due the University as follows:

<i>Students' Accounts</i>	\$11,117 20
Maine Agricultural Experiment Station	7,150 94
Other General Ledger Accounts	7,683 99
	<hr/>
	\$25,952 13

SCHEDULE F—ASSETS

General Appropriation, State of Maine:

Amount due the University under the provisions of Chapter 269 of the Resolves of the State of Maine for the year 1909, and unpaid	\$33,856 38
---	-------------

SCHEDULE G—ASSETS

Bills Receivable:

Representing notes held by the University as follows:

Ninety-five (95) promissory notes signed by present and former students, given in settlement of tuition fees, term bills, etc., and aggregating	\$2,079 17
Three promissory notes given by Building Association...	2,900 00
	<hr/>
	\$4,979 17

SCHEDULE H—ASSETS

Cash Balance, June 30, 1910:

Cash deposit at bank:

First National Bank, Bangor, Maine	\$ 753 15
Cash at Office (Cash Drawer)	636 01
	<hr/>
	\$ 1,389 16

Cash Receipts and Disbursements:

Total Cash Receipts	\$361,703 67
Total Cash Disbursements	360,319 32
	<hr/>
Excess of Receipts	\$1,384 35
Cash Balance at beginning of year	4 81
	<hr/>
Cash Balance at end of year	\$ 1,389 16

SCHEDULE I—LIABILITIES

Bills Payable:

Merrill Trust Company, Bangor, due July 14, 1910	\$11,000 00
First National Bank, Bangor, due July 14, 1910	15,000 00
First National Bank, Bangor, due July 16, 1910	8,500 00
First National Bank, Bangor, due July 16, 1910	11,000 00
Merrill Trust Company, Bangor, due July 18, 1910	8,500 00
First National Bank, Bangor, due July 23, 1910	5,500 00
	<hr/>
	\$59,500 00

SCHEDULE J.—LIABILITIES

Accounts Payable:

Audited Vouchers	\$17,477 01
Athletic Association	975 00
I. Maxwell Stover	1 29
Chicago Alumni Association	30 00
New York Alumni Association	30 00
Kidder Scholarship	30 00
Maud Colcord	15
C. A. Varnum	26 00
	<hr/>
	\$18,569 45

STATEMENT SHOWING INCOME FROM ALL SOURCES

Income from Students:

Registration fees	\$5,710 00	
Tuition fees, General	17,422 50	
Tuition fees, Law School	4,051 50	
	22,074 00	
Incidental fees	11,340 00	
Special fees for Libraries, Laboratories, degrees, etc.	1,100 50	
For Dormitories	1,253 35	
		\$41,477 85

Income from Investments:

Endowments for general purposes (Coburn) ..	\$4,000 00	
Rents	1,941 50	\$5,941 50

Income from grants by State and Nation:

State:

*Appropriation for current expenses and buildings	\$133,000 00
---	--------------

Federal Aid:

Income from Land Grant—Act of July 2nd, 1862	5,915 00
Additional endowments—Acts of August 30, 1890, and March 4, 1907.....	40,000 00

\$178,915 00

*The provisions of Chapter 269 of the Resolves of the State of Maine for the year 1909, making a general appropriation for the benefit of the University, were not effective, because of the amendment to Article Four of the Constitution of the State, until July 3rd, of that year. In April, 1909, before said resolve became operative, but in anticipation thereof, the sum of twenty thousand dollars was paid or advanced by the State of Maine to the University, which payment or advancement (the fiscal year of the State and that of the University differing), is charged by the latter among its receipts for the fiscal year which ended June 30, 1909. This report, therefore, comprises only the remainder of said appropriation for the calendar year 1909, or eighty thousand dollars, plus the amount to which, under said resolve, the University was entitled between the dates of January 1st and June 30th, 1910, both inclusive, or fifty thousand dollars, making a total income from this source, for the fiscal year of the University which ended June 30th, 1910, of one hundred and thirty thousand dollars to which is added the sum of three thousand dollars, being amount of appropriation for printing and binding reports for the years 1909-10.

Income from other sources.

Profit & Loss Account	\$61 16	
College of Agriculture, Sales	10,590 42	
Board of Students, Summer Term	123 70	
		<hr/>
		\$ 10,775 28
		<hr/>
		\$237,109 63

STATEMENT SHOWING TOTAL EXPENDITURES

Salaries:

Salaries, Officers	\$8,762 30	
Salaries, Instructors	82,310 45	\$91,072 75

Administration Expenses:

Advertising	\$1,193 24	
Clerk Hire	2,167 73	
Commencement	558 59	
Freight & Express	506 98	
Office Supplies	1,224 65	
Printing & Binding	34 18	
Telephone & Telegraph	230 32	
Traveling Expenses	944 06	
Interest & Discount	684 88	
Miscellaneous	830 37	
School Inspections	126 60	
Printing Reports & Bulletins	2,143 62	\$10,645 22

Maintenance of Property:

Repairs to Buildings	\$ 4,637 29	
Care of Buildings	4,602 74	
Furnishings & Fixtures	1,199 63	
Insurance	360 10	
Grounds	2,027 59	
Athletic Field	21 60	\$12,848 95

Heat, Light and Power:

Labor	\$ 3,212 48	
Repairs	211 14	
Supplies	3,825 45	
Electricity	2,271 40	
Coal	8,387 58	
Miscellaneous	139 14	
Freight & Express	27 71	
Oak Hall Steam Line	93 06	\$18,167 96

Department Expenses:

Civil Engineering	\$ 2,005 60	
Electrical Engineering	597 96	
Forestry	66 34	
Law School	8,517 48	
Law Library	835 18	
Library	4,628 18	
Mathematical Science	18 64	
Mechanical Engineering	824 53	
Mechanics & Drawing	166 58	
Military Science	39 92	
Museum	981 18	
Physical Training	126 50	
English Language	122 22	
Romance Language	26 37	
Bacteriology	408 64	
Biology	1,085 77	
Biological & Ag. Chemistry	231 81	
Chemistry	961 89	
Pharmacy	27 72	
Physics	499 59	\$22,172 10
<hr/>		

Forward \$154,906 98

House Charges:

University Inn	\$5,635 23	
Commons	1,504 16	\$7,139 39
<hr/>		

Sundry Accounts:

Summer Term, 1909		\$537 54
Prizes		70 00
Water Supply		1,893 94

College of Agriculture:

Farmers' Week	\$ 387 78	
Salaries of Instructors	10,818 50	
Pay of Employees	9,327 12	
Equipment	1,412 40	
Horses	475 00	
Cows	50 00	
Feed	3,724 47	
Hay and Straw	69 07	
Fertilizer, seeds, etc.	1,035 36	
Heating	97 25	

Sundry Supplies & Miscellaneous	1,273 37	
Repairs	269 04	
Traveling Expenses	743 88	
Postage, Printing & Stationery	357 83	
Freight & Express	496 02	
Advertising	33 20	
Forest Experiment Station	80 94	
Domestic Science	1,254 81	
		<hr/>
		\$ 31,906 04
		<hr/>
		\$196,453 89
Surplus		40,655 74
		<hr/>
		\$237,109 63

NOTE: The figures shown in the foregoing statement may not show the net cost of the several departments. This is explained by the fact that no inventories were available at the beginning of the year and it is likely that figures shown hereon may include charges for fixtures, supplies, etc., included in inventories taken at end of year.

STATEMENT SHOWING HOW SURPLUS WAS EMPLOYED

Increased Assets:

Plant:

Agricultural Build- ing	\$1,083 96	
Heating Plant	500 00	
Farm Buildings	723 98	
Faculty Houses.....	13,035 65	
New Dormitory	7,588 59	
New Waiting Room .	212 67	\$23,144 85

Accounts Receivable:

Maine Agricultural Experiment Station	\$6,643 71	
Other Accounts	972 82	\$ 7,616 53

Due from State of Maine—

Account of Appropriation	\$33,856 38
--------------------------	-------------

Inventories:

University Inn.....	\$ 2,191 65	
Domestic Science....	425 22	\$ 2,616 87

Cash:

\$1,384 35	\$68,618 98
------------	-------------

LESS

Bills Payable, Increased	\$10,500 00	
Accounts Payable, Increased	17,413 30	
Bills Receivable, Decreased	49 71	
Trust Fund Investment, Decreased	23	\$27,963 24
		<hr/>
Net Increase in Surplus		\$40,655 74

MAINE AGRICULTURAL EXPERIMENT STATION

For the Fiscal Year Ended June 30, 1910

ASSETS

Highmoor Farm	\$10,000 00
Holmes Hall	18,500 00
Incubator House	1,800 00
Poultry Houses	3,350 00
Due from State of Maine Appropriation for Analysis of Food, Seeds, etc.	9,000 00
Due from State of Maine Appropriation for Printing Re- ports	3,473 72
Inventory—Highmoor Farm	5,087 68
Inventory—Furnishings, Fixtures & Appliances	29,948 91
	<hr/>
	\$81,160 31

LIABILITIES

Appropriation, 1910, Analysis of Foods, Seeds, etc., Un- expended	\$ 4,500 00
Appropriation, 1910, Printing Reports, unexpended.....	3,473 72
Amount ¹ due University of Maine	7,150 94
	<hr/>
	\$66,035 65
	<hr/>
Surplus	\$81,160 31

Statement showing Income and Expenditures:

Income:

Adams Fund	\$ 13,000 00
Hatch Fund	15,000 00
General Fund	1,428 72
Appropriation for Food, Seeds, etc.	13,500 00
Appropriation for Printing Reports, etc.	5,526 28
Inspection Receipts	2,144 77
Highmoor Farm	1,100 71
Appropriation for purchase Highmoor Farm.....	10,000 00
General Fund balance from 1909, account	1,137 83
	<hr/>
	\$62,838 31

Expenditures:

Salaries, Labor, Traveling Expenses, Chemical Supplies, etc., etc., Adams Fund	\$ 13,000 00
Salaries, Labor, Traveling Expenses, Chemical Supplies etc., etc., Hatch Fund	15,000 00
Salaries, Labor, Traveling Expenses, Chemical Supplies, etc., etc., General Fund	1,802 36
Salaries, Traveling Expenses, Chemical Supplies, etc., etc., Inspections 1909, & 1909-1910	15,597 98
Printing Reports, etc.	5,526 28
	<hr/>
	\$50,926 62
Surplus	11,911 69
	<hr/>
	\$62,838 31

Statement showing how surplus was employed:

INCREASED ASSETS

Highmoor Farm, New Purchase	\$10,000 00
Highmoor Farm, Receipts and Inventory in excess of ex- penditures	1,100 71
Inspections, Receipts in excess of expenditures	46 79
General Fund, Receipts in excess of expenditures	764 19
	<hr/>
	\$11,911 69

Respectfully submitted,

CHARLES J. DUNN,
Treasurer.

To the Trustees, University of Maine:

Approved: CHARLES P. HATCH, *State Auditor.*

REPORT OF THE PRESIDENT

To the Board of Trustees of the University of Maine:

The President of the University has the honor to present his ninth annual report, covering the years 1909-1910.

CHANGES IN THE FACULTY

Professor Gordon E. Tower resigned the chair of Forestry at the close of the college year, June, 1910. Professor Tower has been in charge of the Department of Forestry for five years. When he came to Maine, although courses in forestry had been offered for two years, it could not be said that the Department had passed beyond the experimental stage. During the past five years it has become clearly evident that not only is there demand for instruction in this subject, but a very urgent demand for men trained to care for public forests and those belonging to large paper manufacturing corporations. This has accordingly caused an increasing number of young men to enter upon the study of forestry. The number enrolled in the Forestry Department in 1905 was 22, 1906 31, 1907 27, 1908 42, 1909 40. Professor Tower's work has been earnest and successful as a teacher. He resigned to engage in private business.

To succeed Professor Tower, John M. Briscoe has been appointed. He was a member of the class of 1909 at the Yale Forest School, and for the past year has been engaged in the United States Forest Service. He was highly recommended by Henry S. Graves, Chief of the United States Forest Service, and by others conversant with his ability.

For several years many of those having great interest in the athletics of the University have desired that the general management be placed in the hands of a competent director, who should be a regular officer in the University and responsible to the Faculty and Trustees. Mr. Edward Rainey Wingard has been appointed Director of Physical Culture and Athletics. He was graduated at Susquehanna in 1900 and received the degree of M. S. from the University of Pennsylvania, with a major in history, two years later. During his undergraduate career he played football, baseball, and basketball, pitched on the baseball team, was a member of the track team, and during his senior year was captain of the football, baseball, and track teams. At Pennsylvania, although ineligible for 'varsity teams, during his first year he played on the second football team and coached it during his second year. In the local track meet he made a record of ten seconds in the hundred yards dash.

Since completing his work at Pennsylvania, he has been an athletic director, for three years at Butler College, one year at Western University of Pennsylvania, and three years at Louisiana State University. His teams have been remarkably successful. During two summers he has taken work in physical culture at the Harvard summer school.

At Maine he will have charge of the gymnasium work and coach such of the teams as he sees fit, with such assistance as he may require. All coaches will be directly responsible to him for their methods and their results.

The University pays him the amount it was previously putting into the salaries of the Physical Director and the Assistant in Physical Training. The additional amount necessary to secure his services is contributed by the Athletic Association. His faculty rank is that of professor.

To replace Mr. George E. Pearson, Instructor in the Department of English, resigned, Mr. Victor Alvin Ketcham, B. A., LL.B., has been appointed.

Mr. Ketcham was graduated from the arts department of the Ohio State University in 1907 and from its College of Law in 1910. He represented Ohio State in a number of intercollegiate debates and oratical contests, and has trained the Mt. Vernon, Ohio, High School pupils in argumentation and debate during the past year. He will have the work in English which has been carried for several years by Mr. Pearson, resigned.

Mr. Kaulfuss, who succeeds Mr. Johnstone as Instructor in Civil Engineering, is a graduate of the course in civil engineering at the University of Wisconsin, in 1908, and since that time has been in practical railroad engineering work.

Mr. W. F. Washburn, Instructor in Chemistry, resigned in the middle of the spring semester of 1910 to accept a commercial position. The vacancy was filled by the appointment of Lloyd M. Burghart, B. S. Mr. Burghart was graduated at Lake Forest College in 1906, and for three years was in charge of commercial laboratories. He was appointed graduate assistant in Analytical Chemistry at the University of Illinois, in 1909, and had nearly completed the work required for the degree of M. S. when he left to accept the position in Maine.

Owing to ill health, Miss Isabel Munro, B. S., Cataloger in the Library since 1907, was obliged to discontinue her work last December. The vacancy was filled by the appointment of Miss Bertha Carey Whittemore, who has been an Assistant in the Library since 1907. The vacancy caused by the transfer of Miss Whittemore was filled by the appointment of Miss Helen Waugh Stobie as Assistant. Miss Stobie was librarian of the Tacconnet Club Library in 1906-07, and in 1907-8 took the one year library course at Simmons College. The vacancy in the library staff that has existed since 1908 was filled in April last by the appointment as Assistant of Miss Julia Lydia Crocker. Miss Crocker was a student in the library course at Simmons College for three years, leaving in 1908, at the end of her Junior year, to ac-

cept a position as librarian of the Calais Free Library, where she remained until the acceptance of her appointment at the University. All the time that can be used for this purpose will be given by Miss Crocker to cataloging public documents, a branch of work that has necessarily been slighted up to this time.

Miss Edith Maynard Wallace, M. A., Instructor in Biology since 1908, resigned in the fall of 1909 on account of ill health. Her position was filled by the appointment of Miss Alice Middleton Boring, M. A. Miss Boring graduated at Bryn Mawr in 1904, where she was Graduate Scholar in Biology the following year and received the degree of M. A. in 1905. She was Fellow in Zoology at the University of Pennsylvania, 1905-6, Fellow in Biology at Bryn Mawr, 1906-7, and a student at the University of Wurzburg and in Stazione Zoologica at Naples, 1908-9.

Assistant Professor George E. Simmons, Director of Extension Work in the College of Agriculture, has been transferred to the Department of Agronomy to take the place of Assistant Professor Sherwin, resigned. To be Director of Extension work in place of Professor Simmons, Dr. Leon S. Merrill has been appointed. He has for the last four years been in charge of the dairy division of the State Department of Agriculture as State Dairy Instructor. His work in that position has been thoroughly successful and has given him a knowledge of conditions throughout the State and a wide acquaintance among the people that will be of great value to him in his new position.

Dr. Merrill graduated from the Maine Medical School in 1889, but severe trouble with his eyes for several years prevented his following the practice of medicine. He has conducted a general store in Solon for many years, and from 1898 to 1907 was manager and auditor of the Solon Creamery Company. He is actively interested in farming at the present time, and has declined an attractive position at the Massachusetts Agricultural College in order to accept that at the University of Maine.

Mr. Harry M. Royal has been appointed Instructor in Physics to take the place of Mr. George A. Scott, resigned. Mr. Royal is a graduate of the University of Maine in the class of 1910.

Mr. Arthur M. Bussell has been appointed Instructor in Chemistry to take the place of Mr. Benjamin E. Kraybill, resigned. Mr. Bussell graduated from the University of Minnesota in 1910, with a major in chemistry. He taught science and mathematics for a year in Windom Institute and had been employed as chemist during his vacations by the Kennicutt Water Softening Co., of Chicago, and the Minneapolis Board of Health.

Mr. Harvey H. Jordan and Mr. John N. Philbrook have been appointed tutors in civil engineering to replace Mr. W. E. Connor and Mr. N. H. Mayor, resigned. Both Mr. Jordan and Mr. Philbrook are graduates of the University of Maine in the course in Civil Engineering in 1910.

PROMOTIONS

At the meeting of the Board of Trustees on June 20th, Professor Harold S. Boardman was made Dean of the College of Technology. Dean Boardman was graduated at the University in 1895, in the course in civil engineering. The following year he did graduate work at the Massachusetts Institute of Technology. He was Tutor in Drawing at the University, 1896-99, and then for two years in practical work with the American Bridge Co. He returned to the University in 1901 as Instructor in Civil Engineering, was promoted to Associate Professor, in charge of the department, upon the resignation to Professor N. C. Grover in 1903, and made Professor in 1904. He has spent most of his summers for some years in professional work and most of the important field work of the Maine Hydrographic Survey has been done under his oversight. He has been a member and chairman of some of the most important faculty committees, and his appointment as Dean of the College of Technology will undoubtedly advance the interests and promote the efficiency of all the engineering departments.

Other promotions were Mintin Asbury Chrysler, from Associate Professor to Professor of Botany; Victor Ray Gardner, from Assistant Professor to Professor of Horticulture; Truman Leigh Hamlin, from Instructor to Assistant Professor of Mathematics; Ernest Claude Drew, from Tutor to Instructor in Physics.

CHEMISTRY

I wish to call attention to the complete change in the personnel of the Faculty in the Department of Chemistry. This is set forth in detail in Professor McKee's report. What is of greater significance is the re-organization in work and method in conformity with the best in modern chemical laboratories. Great as has been the progress in a single year, results entirely satisfactory to the new head of the Department cannot be obtained while the space in the laboratory is insufficient for the number of students now enrolled, and hopelessly inadequate for expansion in variety of work offered and increasing numbers. Once more it seems best to repeat the statement made in several previous reports that the next building upon the campus should be a large, well equipped chemical laboratory.

DOMESTIC SCIENCE

Fully organized class work in Domestic Science has been given for the first time during the past college year, and with most satisfying and encouraging results. Not only have the regular students availed themselves of the new opportunities, but, in response to a demand, classes have been formed of ladies from Orono, Oldtown and Bangor. Miss Comstock, in addition to her regular work at the University, has responded to a great many calls to lecture upon Domestic Science and to organize work in various parts of the State. The demand for and need of thoroughly organized extension work in this and related topics is as urgent as for that in agriculture.

EXTENSION WORK IN AGRICULTURE

No division of the work of State Universities and State Colleges is attracting more attention throughout this country and Canada than the Extension Work. Some institutions have arranged for extra-mural classes in many departments of college and university instruction, but for obvious reasons, much more commonly is the effort put forth entirely in agriculture and related topics.

In the three years since the first man was appointed at the University of Maine to develop this line of work, the progress has been amazing, but every step forward only reveals new roads to follow and new fields to enter.

The real beginning of the tie between the farmers of the State and the University was in 1906, when Farming Special trains were run over the lines of the Bangor & Aroostook system and part of the Maine Central system.

In June, 1910, the University, in co-operation with the newly organized Industrial Department of the Maine Central, ran a train far better equipped for instruction purposes than the one of 1906. The Railway Company furnished the train, and the University the lecturers, demonstrators and exhibits. The State Department of Agriculture heartily joined in this effort, as on the previous occasion. The following itinerary was followed:

THURSDAY, JUNE 9th.

Leave Orono	7.00 A. M.	
Ellsworth	8.30 A. M. to	9.30 A. M.
Cherryfield	10.45 A. M. to	12.45 P. M.
Columbia Falls	1.15 P. M. to	2.45 P. M.
Eastport	Evening.	

FRIDAY, JUNE 10th.

Pembroke	8.15 A. M. to	9.45 A. M.
Princeton	11.30 A. M. to	3.00 P. M.
Calais	Evening.	

SATURDAY, JUNE 11th.

Dennysville	8.05 A. M. to	9.30 A. M.
Machias	10.35 A. M. to	12.50 P. M.
Harrington	1.40 P. M. to	2.40 P. M.
Bangor	5.45 P. M. and Evening.	

SUNDAY, JUNE 12th.

Bangor.

MONDAY, JUNE 13th.

Waterville	9.30 A. M. to	12.00 M.
Vassalboro	1.30 P. M. to	2.30 P. M.
Riverside	3.00 P. M. to	5.00 P. M.
Augusta	Evening.	

TUESDAY, JUNE 14th.

Gardiner	9.00 A. M. to 12.00 M.
Richmond	1.32 P. M. to 4.00 P. M.
Bowdoinham	4.30 P. M. to 6.00 P. M.
Brunswick	Evening.

WEDNESDAY, JUNE 15th.

Steep Falls	9.00 A. M. to 11.00 A. M.
Hiram	12.00 M to 5.00 P. M.
Fryeburg	Evening.

THURSDAY, JUNE 16th.

Cornish	9.00 A. M. to 11.00 A. M.
South Windham	12.00 M. to 2.00 P. M.
Cumberland Mills	3.00 P. M. to 5.00 P. M.
Springvale	Evening.

FRIDAY, JUNE 17th.

Waterboro	9.00 A. M. to 12.00 M.
Bradbury	1.00 P. M. to 2.00 P. M.
Gorham	3.00 P. M. to 5.00 P. M.
Kennebunk	Evening.

SATURDAY, JUNE 18th.

Eliot	8.30 A. M. to 10.00 A. M.
North Berwick	10.30 A. M. to 1.00 P. M.
Wells Depot	1.30 P. M. to 2.30 P. M.
Saco	3.00 P. M. to 5.00 P. M.
Portland	Evening.

SUNDAY, JUNE 19th.

Portland.

MONDAY, JUNE 20th.

Poland	9.00 A. M. to 11.00 A. M.
West Minot	11.30 A. M. to 12.30 P. M.
Buckfield	1.30 P. M. to 4.00 P. M.
Peru	5.00 P. M. to 6.00 P. M.
Rumford Falls	Evening.

TUESDAY, JUNE 21st.

Canton	9.00 A. M. to 11.00 A. M.
Mechanic Falls	1.00 P. M. to 4.00 P. M.
Auburn	Evening.

WEDNESDAY, JUNE 22nd.

Monmouth	9.00 A. M. to 12.00 M.
Readfield	2.00 P. M. to 4.30 P. M.
Madison	Evening.

THURSDAY, JUNE 23rd.

North Anson	9.00 A. M. to 11.00 A. M.
Solon	1.30 P. M. to 4.00 P. M.
Bingham	Evening.

FRIDAY, JUNE 24th.

Norridgewock	9.00 A. M. to 11.00 A. M.
Oakland	11.30 A. M. to 2.00 P. M.
Mattawamkeag	6.00 P. M. and Evening.

SATURDAY, JUNE 25th.

Danforth	9.00 A. M. to 11.00 A. M.
Kingman	12.00 M. to 2.00 P. M.
Enfield	3.00 P. M. to 5.00 P. M.

End at Bangor 6.15 P. M.

HAZING

At the meeting in June, 1909, the Trustees, at the request of the Faculty, authorized the requiring of every student entering the University in the Fall of 1909 and thereafter, to sign a card stating that he would take no part in hazing. After hesitating a day or two at the beginning of the semester in September, all students, old and new, signed the required card.

Early in October unmistakable cases of hazing occurred. After a careful investigation, the Faculty suspended several students for taking active part. It is unnecessary in this report to relate further incidents, but merely to state that influences among the students brought about a quite general "strike." All but about fifty students left all college work for six days. When, however, it became clear that the Trustees could not be persuaded to interfere with the disciplinary measures of the Faculty, the students returned to their work.

At their regular meeting in November, the Trustees unanimously approved of all the measures the Faculty had taken. The general effect of the episode was wholesome. It was observed in all departments of the University that there was a more studious atmosphere and class work was distinctly better throughout the remainder of the college year.

There is no manner of doubt that for several years previously there had been a great amount of time and student energy wasted in the so-called "razoos," and this, added to the evils and outrages of hazing, could not be longer tolerated if the University were to successfully perform its functions. If the Faculty and Trustees maintain the firm stand they have now taken on this whole question, a very appreciable obstacle to progress will have been removed.

NEW DORMITORY

The dormitory which has been long needed is now in process of construction and will be ready for occupancy about January 1st, 1911. The plans were furnished by William Hart Taylor & Son, of Boston, and the contract was let to Smith & Rumery, of Portland. It is 168 feet long and 35 feet wide, having four stories and a basement. The building is divided by fireproof walls into three sections. Each floor in each section is provided with bath and toilet facilities, and in the basement is a

dining room large enough to accommodate three hundred. A thoroughly equipped kitchen is built in the rear, and is connected by corridors with the dining room.

THE DEPARTMENT OF EDUCATION

The University has for years received more calls for High School teachers than it could supply. Many graduates and undergraduates have taken up the work of teaching without any special study of the history of education or of school organization and administration. This is unfortunate both for the teacher and the school. A better equipped teacher can command higher pay, and better paid and better equipped teachers are what most of the schools in Maine seriously need. If Maine would require by law what many other States now demand of all teachers for high schools, *i. e.*, at least one year of work in the Science of Education as offered in the State University, the effect could not fail to be beneficial in many ways.

There is a very rapidly growing demand for teachers in agriculture, manual training, domestic science and other specialized departments. The Department of Education should be provided with enough help and facilities to meet this demand. It cannot well be met elsewhere, and it is the duty of the State University, as the head of the State school system, to fit the teachers for all departments of the High Schools, as it is of the Normal Schools to provide the proper training for teachers of the grades.

The University has been able so far to engage only one professor for the Department of Education, but the amount and quality of the work offered by him has amply demonstrated the utility of the Department. The immediate efficiency of those who, having taken the courses offered, now occupy important superintendencies and principalships, is noteworthy.

THE UNIVERSITY AS A UNIT IN STATE EDUCATION

What has just been said regarding the Department of Education has a distinct bearing on the place of the University in the State system. Education has prospered best in those States where there is no break in the system from the kindergarten through the University. There should be the closest of ties between all the divisions into which the system of public education falls, Common Schools, High Schools, Normal Schools and Universities. The transition from one division to the other should be as easy and natural as from one grade to another in the same school. This cannot well be accomplished if each division is left to work for its own development and aggrandizement without relations with and knowledge of the others.

The State Superintendent of Schools has as part of his duty the study and solution of just the problem here suggested. He is intimately connected with Common, High and Normal Schools, their relations to each other, their courses of study and classification. The State University should not in any way be apart from these other educational divisions.

How to bind its interests and duties closer to the others may well engage the deepest thought of Trustees and Faculty.

Would it not be wisdom to have the laws relating to the University so amended as to place the State Superintendent of Schools as an *ex-officio* member on the Board of Trustees?

REPORTS OF FACULTY

Following the report of the President, as has been customary every two years, will be found the reports of the Deans and heads of the various departments of instruction. No definite form of statement has been required for these reports. Each head of a department has addressed to the President a statement of his own work and of the needs of the department as he sees them. A perusal of these Faculty reports is recommended. They will throw much light on the details of departmental instruction and the varying ideals of those in charge.

DEGREES CONFERRED IN JUNE, 1910

COLLEGE OF ARTS AND SCIENCES

LEROY WINFIELD AMES, B. A. (Biology)	Bangor
WALES HENRY ANDREWS, B. S. (English)	Middleboro, Mass.
FRANCES ELIZABETH STANISLAUS ARNOLD, B. A. (Romance Languages)	Orono
EMERY RAY BOWDOIN, B. S. (Economics)	Bucksport
JENNIE CHRISTIANNA BROWN, B. S. (English)	Orono
GROVER TRITES CORNING, B. S. (Economics)	Lynn, Mass.
CHARLES LIGUORI GRAHAM, B. S. (Mathematics)	Brooklyn, N. Y.
W WARREN HARMON, B. S. (Economics)	Old Orchard
DANIEL RUSSELL HODGDON, B. A. (Physics)	Gorham
GEORGE CROSBY HOWARD, B. A. (Greek)	Orono
CHESTER CLEVELAND JOHNSON, B. S. (Mathematics)	Portland
EDITH LUELLE JORDAN, B. A. (Romance Languages)	Old Town
GLADYS EMMA KAVANAH, B. S. (Mathematics)	Bangor
JOSEPH SYLVESTER KEATING, B. S. (Economics)	Red Beach
ERNEST LAMB, B. S. (Economics)	Utica, N. Y.
EDWIN RANDOLPH MORGAN, B. S. (Economics)	Sangerville
FRANKLIN WILLIAM PETTEY, B. A. (Biology)	Fall River, Mass.
GENEVA ALICE REED, B. A. (Mathematics)	Orono
AUGUST HERMAN THEODORE SCHIERLOH, B. A. (German)	Brooklyn, N. Y.
OLIVER FISK SEVRENS, B. S. (Biology)	North Woburn, Mass.
FRANK ELWYN SOUTHARD, B. A. (Economics)	Auburn
WINTHROP HAMOR STANLEY, B. A. (Education)	Hull's Cove
LENORA ELLEN TAFT, B. A. (Latin)	Boston, Mass.
JAMES IRVING TRAVIS, B. S. (Economics)	Machiasport
GEORGE ARTHUR WAKEFIELD, B. A. (Biology)	Andover

COLLEGE OF AGRICULTURE

WILLIAM CLARKE BAGG, B. S. in Forestry	Utica, N. Y.
ROBERT BACON CRUICKSHANK, B. S. in Forestry	Akron, Ohio
FRED DUMONT DAVIS, B. S. in Forestry	Brooks
FRANK EUGENE FORTIER, B. S. in Agriculture	Turner Center
ALBERT KINSMAN GARDNER, B. S. in Agriculture.....	Rockland
LEROY WHITTIER GARDNER, B. S. in Forestry	Dennysville
MARSHALL EVERETT REED, B. S. in Forestry	Roxbury
GEORGE ALBERT STUART, B. S. in Agriculture	Calais
HERMAN PITTEE SWEETSER, B. S. in Agriculture	Cumberland Center
GEORGE SABINE WADSWORTH, B. S. in Agriculture	Eastport

COLLEGE OF PHARMACY

WALTER MELVILLE CHASE, B. S. in Pharmacy	Bangor
FREDERIC LIBBY DAVIS, Ph. C.	South Berwick
FRED HELGESEN, Ph. C.	Newport, R. I.
ROYCE BREWSTER JOSSELYN, Ph. C.....	South Hanson, Mass.
GEORGE CAMPBELL WARD, Ph. C.	Kennebunk

COLLEGE OF TECHNOLOGY

GEORGE FRANK BARRON, B. S. in Electrical Engineering	Orono
JAMES EDMUND BATTLES, B. S. in Electrical Engineering	Frankfort
WALLACE BROWNELL BAYLIES, B. S. in Civil Engineering	New Bedford, Mass.
FREDERICK ROWE BIGNEY, B. S. in Electrical Engineering	Greenville
ROY JAMES BIRD, B. S. in Chemistry	South Paris
LESTER MORSE BRAGG, B. S. in Civil Engineering	Stockton Springs
HEREBERT PUTNAM BRUCE, B. S. in Civil Engineering	Lynn, Mass.
ALFRED KIMBALL BURKE, B. S. in Chemistry	Kennebunk
VAUGHN RUSSELL CHADBOURNE, B. S. in Electrical Engineering,	Mattawamkeag
ALFRED BLANCHARD CHANDLER, B. S. in Electrical Engineering,	Yarmouthville
HAROLD LINSOTT CLIFFORD, B. S. in Civil Engineering.....	Orono
RAYMOND THURBER COLE, B. S. in Mechanical Engineering So.	Portland
JOHN LAMBERT COLLINS, B. S. in Electrical Engineering	Gardiner
FREDERICK WILLIS CONLOGUE, B. S. in Electrical Engineering ..	Houlton
HORACE JEWETT COOK, B. S. in Civil Engineering	Waterville
RALPH WILLIS CROCKER, B. S. in Electrical Engineering	Bangor
CHESTER GOODMAN CUMMINGS, B. S. in Mechanical Engineering,	Vanceboro
JAMES MURCHIE EATON, B. S. in Electrical Engineering	Princeton
MALCOLM EDWARD FASSETT, B. S. in Civil Engineering	Woodfords
CHARLES HENRY FENN, B. S. in Civil Engineering	Portland
KENT RICHARD FOX, B. S. in Chemistry	Bangor
CHARLES MELVILLE FULTON, B. S. in Civil Engineering,	Effingham Falls, N. H.

CARL JOSEPH GOOCH, B. S. in Civil Engineering Biddeford
 GEORGE PERCY GOODRICH, B. S. in Electrical Engineering Phippsburg
 CLIFTON ALLISON HALL, B. S. in Electrical Engineering Brewer
 ROY OTIS HATCH, B. S. in Chemistry..... Orono
 WESTON MILLIKEN HICKS, B. S. in Civil Engineering Portland
 RALPH EVERETT HOBBS, B. S. in Electrical Engineering Lynn, Mass.
 RUPERT A JELLISON, B. S. in Chemistry..... Bar Harbor
 HARVEY HERBERT JORDAN, B. S. in Civil Engineering Waltham
 CHARLES CLAYTON KETCHUM, B. S. in Civil Engineering Ashland
 HERMAN WINSLOW KYES, B. S. in Electrical Engineering, Ipswich, Mass.
 YUEN FOO LEONG, B. S. in Electrical Engineering,

Sun Dong, Canton, China

PHILIP HENRY LITTLEFIELD, B. S. in Mechanical Engineering ... Portland
 ROBY PERKINS LITTLEFIELD, B. S. in Chemistry Ogunquit
 AUSTIN LOUIS MADDOX, B. S. in Civil Engineering Ellsworth
 FRANK EDMUND MERRIAM, B. S. in Mechanical Engineering, Skowhegan
 WALTER SCOTT MERRILL, B. S. in Civil Engineering Skowhegan
 ARTHUR SCUDDER MOORE, B. S. in Electrical Engineering,

West Lynn, Mass.

RAYMOND PRATT NORTON, B. S. in Chemistry Patten
 ALLEN EDSON OAK, B. S. in Civil Engineering Caribou
 JOHN NEAL PHILBROOK, B. S. in Civil Engineering Woodfords
 CHARLES AUGUSTUS CUSHMAN PORTER, B. S. in Civil Engineering,

Bangor

CHARLES OLAND PRATT, B. S. in Civil Engineering, West Medford, Mass.
 JOSEPH GEORGE ROSE, B. S. in Civil Engineering Brooklyn, N. Y.
 HAROLD MERTON ROYAL, B. S. in Electrical Engineering Hermon
 JAMES GRINDLE SCALES, B. S. in Chemistry Guilford
 CHARLES FRENCH SMITH, B. S. in Electrical Engineering .. Skowhegan
 EDWARD NOTLEY SNOW, B. S. in Electrical Engineering Skowhegan
 GEORGE EDWIN SPRINGER, B. S. in Electrical Engineering Portland
 ISAAC MAXWELL STOVER, B. S. in Electrical Engineering ..,..... Orono
 CHARLES HENRY TUCKER, B. S. in Civil Engineering Orono
 HAROLD EDWARD WALKER, B. S. in Civil Engineering Sabattus
 GEORGE ALEXANDER WALLACE, B. S. in Civil Engineering Portland
 GEORGE ALBERT WEBSTER, B. S. in Electrical Engineering ... Farmington
 JAMES LEON WHITMORE, B. S. in Electrical Engineering .. North Haven
 HAROLD WILLIAMS WRIGHT, B. S. in Civil Engineering .. Reading, Mass.

COLLEGE OF LAW

FRANK LYMAN BASS, LL. B. (B. A., Bowdoin College, 1907) ... Bangor
 ISRAEL HARRY CAPLAN, LL. B. Portland
 CARLETON DOAK, LL. B. Belfast
 ASTOR ELMASSIAN, LL. B. Lynn, Mass.
 OSCAR HARRIS EMERY, LL. B. Bar Harbor
 CARL FOLSOM GETCHELL, LL. B. (B. A., Dartmouth College, 1905)

Newport

HERBERT LEROY GRINNELL, JR., LL. B. (B. A., Bowdoin College, 1902)	Derry, N. H.
WILLIAM HARRISON HOLMAN, LL. B.	Bangor
LAWRENCE VIVIAN JONES, LL. B.	Bangor
CHARLES WENDELL LEMAIRE, LL. B.	Taunton,, Mass.
ROBIE LAWTON MITCHELL, LL. B. (B. A., University of Maine, 1907)	West Newfield
BERTRAM EVERETT PACKARD, LL. B. (B. A., Bates College, 1909)	Litchfield
FRED EDGECOMB RICHARDS PIPER, LL. B. (B. A., Bowdoin College, 1906)	Portland
ELISHA SHAW POWERS, LL. B.	Houlton
BERTRAND EDWIN SPENCER, LL. B. (B. A., Dartmouth College, 1906)	Lenox, Mass.
HENRY NATHAN TAYLOR, LL. B.	Portland
CHRISTOPHER TOOLE, JR., LL. B.	Bangor

HONORARY DEGREE

DOCTOR OF LAWS

EDWARD HOWARD BLAKE, (LL. B., Albany Law School, 1878) ...	Bangor
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ADVANCED DEGREES

MASTER OF SCIENCE

WILLIAM ARCHIBALD BROWN, B. S. A., (Ontario Agric. College) 1906, (Agriculture)	Orono
EDITH MARION PATCH, B. S. (University of Minnesota), 1901 (Biology)	Orono

MASTER OF LAWS

EDWARD WILLIAM BRIDGHAM, LL. B., 1909	Bridgton
ARCHER RAWSON GREELEY	Webster, Mass.
HENRY BURT MONTAGUE, LL. B. (Cornell University), 1895,	Southbridge, Mass.
FRANK HOWARD PURINGTON, LL. B., 1908 (B. A., Bates College, 1896)	Portland
WILLIAM MARSTON WEEKS, LL. B. (Cumberland University, 1908), 1909	Lebanon, Tenn.

CIVIL ENGINEER

PAUL LEONARD BEAN, B. S. in Civil Engineering, 1904.....	Orono
GEORGE ESTYN GOODWIN, B. S. in Civil Engineering, 1901 ..	Helena, Mont.
HERMAN STEPHEN MARTIN, B. C. E., 1896	Twin Falls, Idaho

ELECTRICAL ENGINEER

ELMER JOSIAH WILSON, B. S. in Electrical Engineering, 1907.	Lynn, Mass.
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MECHANICAL ENGINEER

WILLIAM ELMER STONE, B. S. in Mechanical Engineering, 1907,
Hartford, Conn.

PORTER LAFOREST SWIFT, B. S. in Mechanical Engineering, 1907,
Hartford, Conn.

CERTIFICATES IN THE SCHOOL COURSE IN AGRICULTURE.

RAYMOND MURRAY PAYSONRockland

PHILIP OTTO PILLSBURYRangeley

CURTIS TAYLORSpringvale

WARREN DUDLEY TRUELitchfield

CERTIFICATE IN THE TEACHERS' COURSE IN AGRICULTURE

HERBERT STAPLES HILL, B. A. (Bowdoin), 1905Westbrook

HONORS AWARDED

GENERAL HONORS

FREDERICK WILLIS CONLOGUE

AUSTIN LOUIS MADDOX

GEORGE PERCY GOODRICH

WALTER SCOTT MERRILL

CHARLES LIGUORI GRAHAM

FRANKLIN WILLIAM PETTEY

VAUGHN RUSSELL CHADBOURNE

MARSHALL EVERETT REED

HARVEY HERBERT JORDAN

HAROLD MERTON ROYAL

ROBY PERKINS LITTLEFIELD

OLIVER FISK SEVRENS

GENERAL HONORS IN THE COLLEGE OF LAW

HERBERT LEROY GRINNELL, JR.

ROBIE LAWTON MITCHELL

BERTRAND EDWIN SPENCER

Respectfully submitted,

GEO. E. FELLOWS, *President.*

REPORT OF THE DEAN OF THE UNIVERSITY

To the President of the University:

During the past two years my work as Dean has had to do mainly with the following matters: (1) admission of first year students to the University; (2) consultation with students; (3) the work of the Committee on Attendance; (4) the work of the Committee on Rules.

ADMISSION

In my report for 1908, a brief table was printed showing the admissions in 1904, 1906, 1908; and this is repeated here with the addition of 1909.

Students admitted to college courses in 1904, 1906, 1908, 1909:

Regular Freshmen	88	152	162	144	(152)
First year specials	27	17	21	14	(6)
Percentage of special students	23.5	10	11.5	10	(4)
Average number of points offered by candidates for four year courses	23.8	25.9	28.26	28.5	(27.8)
Percentage admitted without conditions ...	48	62	62	43	(40)

The figures in the first column for the year 1909 are made up on the same basis as those for the previous years. Those in parenthesis under 1909 were added after a study of the statistics of admissions to college printed in the 4th Annual Report of Carnegie Foundation. In making up these figures all students under 21 years of age taking first year work are counted as regular students, although they may have registered as bona fide specials. In 1909, as in 1908, there was an unusually large percentage of candidates admitted who did not register, in addition to the numbers given above; in fact, the number of admissions up to September 1 appeared to promise an increase in Freshmen over the previous year instead of the decrease which actually occurred.

Although we increased our requirements by one point, we obtained on the average barely one fourth of one point in preparation more than in the preceding year. This small gain in average of points, together with the increase in the percentage of conditioned students, apparently indicates that this addition of one point to our requirements in the fall of 1909 has brought them about to the limit of the ability of our Maine high schools to prepare.

Candidates were admitted to the University in 1909 from the following schools; Bangor, 12, North Yarmouth and Portland High, seven each; Bridgton Academy, Foxcroft Academy, Orono, five each; Bar Harbor, Edward Little High (Auburn), four each; Belfast, Berwick Academy,

Brewer, Coburn Classical Institute (Waterville), Guilford, Maine Wesleyan Seminary (Kent's Hill), Skowhegan, three each; Camden, Deering, Gorham, Hebron Academy, Lewiston, Old Town, South Portland, Vanceboro, Waterville, two each; Bath, Biddeford, Bluehill Academy, Brownville, Bucksport, Calais, Cherryfield Academy, Cony High (Augusta), Corinna Academy, Dexter, Ellsworth, Farmington, Fryeburg Academy, Gardiner, Houlton, Higgins Classical Institute (Charleston), Lee Normal Academy, Lincoln Academy (Damariscotta), Mattanawcook Academy (Lincoln), Mexico, Maine Central Institute (Pittsfield), Newport, Patten Academy, Ricker Classical Institute (Houlton), Solon, Thornton Academy (Saco), Tripp Academy (Kittery), Yarmouth, one each:

Schools outside of Maine: Beverly, Mass., 3; Claremont, N. H., and Reading, Mass., two each; Andover, Attleboro, Chelsea, Clinton, Danvers, Dorchester, Fairhaven, Framingham, Hudson, Lynn English High, Medford, Marlboro, Peabody, Revere, Saugus, Southbridge, Wakefield, Wareham, Mass., Lebanon, Colby Academy (New London), N. H., Newport, Vermont, Pawtucket, R. I., Wilimantic, Conn., Medina, St John's School (Manlius), N. Y., Clearfield, Mercersburg, Pa., Washington, D. C., Norway, Michigan, one each.

From 54 Maine schools we received 118 students; from 20 Massachusetts schools 23 students; from the eight schools in the other New England States, nine students; from the six schools outside of New England, eight students.

STUDENT INTERVIEWS

During the year 1909-10, I held 199 interviews with students sent to me by the Committee on Delinquent Students, because their work was more or less unsatisfactory, considerably more than an average of one for each school day. There was probably an equal, or larger, number of voluntary visits from students.

About two-thirds of the first-year students were, at some time during the year, reported delinquent in one or more subjects. There was no consistent difference in the percentage of delinquents between those admitted by certificate, those admitted by examination, and those admitted by certificate and examination, the figures being for the fall semester 52 per cent, 58 per cent and 59 per cent respectively; and for the spring semester 39 per cent, 28 per cent, and 50 per cent, respectively.

The percentage of delinquents for the spring semester of 1908 was almost exactly 40 per cent for each method of admission, practically the same as for the spring semester 1910.

ATTENDANCE

In the spring of 1909, the Faculty, on recommendation of the Committee on Rules, adopted new regulations regarding absences: no excuses for absence from class-room work are now granted. If a student takes absences exceeding a certain portion of exercises in any subject, about

50 per cent, he is dropped from that class and can be reinstated only by action of the Committee on Attendance, after favorable recommendation by the instructor.

Conditions in the University were so abnormal last year that it is difficult to judge of the effect of the new rule, but it may be noted that the percentage of average attendance was higher during the spring semester than in the corresponding part of the two previous years. Two results are noticeable: (1) The demands upon my time for meetings of the Committee on Attendance and the resulting correspondence and interviews with students are less than under the previous plan of granting individual excuses; (2) There is a noticeable improvement in the general health of the student body, colds, toothache, etc., being less prevalent than formerly.

SCHOLARSHIPS

In the letters that come to me from prospective students, scarcely any questions are more frequently asked than these: "What chance is there for a student to earn all, or a part, of his expenses? What scholarships are available?" I believe that tuition ought to be made free for all students of Maine in all courses given in the Colleges at Orono. If this cannot be done, it would at least seem reasonable to expect the Trustees to establish a small number of free scholarships. If, for instance, each State senator were given the right during his two years' term to appoint one scholar who should receive free tuition, with the proviso that the student selected must satisfy certain high standards of scholarship, I believe that the plan would bring to the University many valuable students who would not otherwise be able to obtain a college education. In recent years our facilities for housing students have been so inadequate that there seemed little reason for encouraging more to come, but with the completion of the new dormitory, it seems to me that we will be justified in holding out additional inducements. If greater numbers are not especially desired, I believe that the plan would help to materially raise the quality of preparation in the entering classes, and would cause greater interest in the work of the institution in all parts of the State.

Respectfully submitted,

JAMES N. HART, *Dean of the University.*

REPORT OF THE COLLEGE OF LAW

To the President of the University:

I beg leave to submit the following report regarding the College of Law, covering the period (not yet covered) ending July 1st, 1910, but not any part of the period between that date and the date of the present report, November 17th, 1910:

The total registration of the school at about Thanksgiving, 1909, was 100 men, which number had increased to 108 at the end of the school year.

The students at the time of their registration were classified as follows: Graduate students 28, Seniors, 23, Juniors 16, First Year men 24, Special Students 9. The number of new men was 28 regular and 7 special students.

The different counties of the State of Maine were represented as follows: Androscoggin 1, Aroostook 6, Cumberland 10, Hancock 9, Kennebec 3, Oxford 1, Penobscot 17, Piscataquis 2, Somerset 2, Waldo 1, Washington 6 and York 3, or 61 in all. It will be seen from this that the student body of the Law School, so far as it comes from Maine, continues to be drawn equally from every section of the State, a result first gained in 1904, and since maintained.

The different states of the Union were represented as follows: Massachusetts 26, New Hampshire 6, Vermont 2, New York 3, Tennessee 1. There was one student from abroad, Armenia, making 39 in all from outside of the State of Maine. The steady increase of attendance from Massachusetts continues to be a most gratifying feature of the development of the school.

This attendance from Massachusetts has risen from 8 in 1903 to 26 at the beginning of the present school year, more than one-fourth of the total registration, a fact which gives the institution a good standing, not only in Massachusetts, but in even a greater degree in Maine itself. The attendance from New Hampshire is also noteworthy and we trust it will continue.

The different colleges and universities of the country were represented in the College of Law during the year as follows: Bowdoin 7, Dartmouth 3, Colby 2, Bates 2, Maine 2, Harvard, Yale, Brown, St. Mary's and Euphrates one each, or 21 in all. There were 17 men that had a partial college education: Maine was represented by 6, Bowdoin by 4, Bates, Colby, Brown, St. Mary's, Amherst, Clark and Holy Cross had one each.

The different law schools of the country were represented by 8 men, that of Boston University by 2, and those of Albany, Cornell, Cumberland University, George Washington University, Harvard and Illinois College of Law by one each.

At the Commencement last June the degree of Bachelor of Laws was conferred upon 17 men out of an original senior class of 26, 9 failing to come up to the required standard, a large percentage due to the increased standard of attainment required for the degree. The number of men who received the degree of Master of Laws was five.

All the members of the graduating class of 1910 that took the bar examination in Maine were successful, and in Massachusetts all but one. In Massachusetts and Connecticut the state legislatures were in session and our law school was represented in their deliberative assemblies, in Connecticut by one graduate, in Massachusetts by three.

The Maine Law Review has now been published for three years and has been firmly established. It is published by the students of the Law School without any financial help from the University except two advertisements of the University that regularly appear in its pages, and brings the University and its College of Law in direct touch with the legal profession. Some of its articles are of very great value, a fact that is beginning to be taken notice of by the profession, even abroad, for in one of the next numbers there will appear an article from Rt. Hon. Sir Wilfrid Laurier, G. C. M. G., P. C., LL. D., Prime Minister of Canada.

The hope of a new building for the College of Law within the next two or three years, a building all its own, assumes an ever more solid aspect, and cheers the minds of all our friends everywhere throughout the State.

There is no doubt about the spirit that has animated the school since its foundation, for a great determination prevails on the part of the students and the faculty to do honest, faithful and loyal work, and to make the institution an honor to the State and a nursery of men.

Respectfully submitted,

W. E. WALZ, *Dean of the College of Law.*

REPORT OF THE COLLEGE OF ARTS AND SCIENCES

To the President of the University:

The registration in the College of Arts and Sciences for the last three years has been as follows:

1907-1908	180
1908-1909	175
1909-1910	184

These numbers include the students registered in the Summer Term which at present is a branch of this College. If the numbers of the Freshman Class who are actually doing their work in the College of Arts and Sciences were included, these numbers would be nearly doubled. I suggest that considerable attention be given to the matter of increasing the size of this College. In past years, the unfortunate differences of opinion which have existed in the State regarding the right of the University of Maine to maintain a College of Arts and Sciences have, perhaps, caused some hesitation on the part of the authorities here to call public attention to the strength of this department of the University. There seems now to be no reason why we should hesitate to call the attention of students and teachers in the State to our excellent curricula along liberal lines. It is from this college that we shall have to draw students if the University ever takes the place in debating, public speaking, and writing which it should occupy. Since this is a State University, there would seem to be no reason why the young women of Maine should not be strongly urged to come here and be as well provided for when they do come as the young men.

With the College of Arts and Sciences registering four or five hundred students, there would be an increased literary activity upon the campus which would be most satisfactory.

In this report I shall speak of some of the interests in which the College of Arts and Sciences is concerned.

FIRST:—SUMMER TERM

In the summer term of 1908, there were registered 99 students; in 1909, 125 students, and in 1910, 153 students. In addition there were registered last summer sixteen students who were taking work in Library Economy under the direction of Mrs. Frances Rathbone Coe. These courses were provided by the State Library Commission, not by the University. There can be but one opinion regarding the good work which the Summer Term is doing. There are many teachers in Maine who feel that they have not the training they desire for their work, or

who wish to review some of the subjects they have taken in college. Each year an enthusiastic company of superintendents, principals, and teachers meet on the university campus and spend six weeks in the most profitable kind of work. Each year an increasing number of our own students find the summer term of advantage in gaining points in their course, or in repeating subjects in which they have failed to pass. It is hoped that the suggestion which has already been made that the Trustees put the Summer Term on a permanent financial basis will soon be carried out.

SECOND :—THE GENERAL LECTURE COURSE

During the past few years this College has maintained a general lecture course open to students who wish credit and to the public at large. Last year the subjects presented lay along the lines of history, sociology, and philosophy in the fall semester, and English language and literature in the spring semester. This year the heads of departments of Greek, Latin, Romance Languages, and German, have charge of the course.

THIRD :—FRIDAY CHAPEL TALKS

Last year there was inaugurated the custom of devoting about ten minutes of the time usually occupied by chapel services on Friday morning to the discussion of events of general interest. A variety of subjects was presented, and the talks were unquestionably of great benefit to the student body. This year a change in the method of conducting chapel services has interfered somewhat with this plan, but it is hoped to resume them about the middle of the year.

FOURTH :—THE LITERATI

This is an organization conducted by the students in the College of Arts and Sciences. It aims to present to the public a variety of entertainments along literary, musical, and dramatic lines. The work done by the organization last year was highly creditable.

FIFTH :—THE ARTS CLUB

This is composed of the Faculty of the College of Arts and Sciences and their wives. Its meetings are in part social and in part educational. Papers upon subjects bearing special relation to their own departments are read by the various members of the Club.

SIXTH :—THE CATALOG

As it is a part of the duties of the Dean of the College of Arts and Sciences to edit the University catalog, it might not be out of place to mention that publication here. It has been the aim of the editor of the catalog to emphasize the university idea and to arrange the catalog as far as possible in divisions which shall show the relationship of the various colleges to one another. This year a material change has been

made in the nomenclature used in the catalog. This change is in accordance with the action of the National Association of State Universities, and will do much toward placing the divisions of the University on a more systematic basis.

SEVENTH :—BULLETINS

The College of Arts and Sciences issues occasional bulletins descriptive of the work offered in its various departments. Last year such a bulletin was issued by the Department of Education. This bulletin called attention to the advantage offered by the University of Maine to students who are proposing to make a business of teaching. Each year there are many more calls for teachers of English, mathematics, the sciences, and modern languages than we are able to supply. It is hoped that this may be of help in turning the attention of young men and women to the advantages offered at the University of Maine in this department.

The faculty of the College of Arts and Sciences holds a monthly meeting at which matters pertaining to the welfare of the college are discussed. Considerable attention is given to methods of conducting department work with the view of becoming more familiar with the work done in one another's departments.

Respectfully submitted,

JAMES S. STEVENS,

Dean of the College of Arts and Sciences.

REPORT OF THE COLLEGE OF TECHNOLOGY

To the President of the University:

I herewith submit my report as Dean of the College of Technology.

This college comprises the departments of Chemistry, Civil Engineering, Mechanical Engineering, Electrical Engineering, and Mechanics and Drawing.

The heads of these departments, with the exception of the department of Chemistry, remain the same as at the time of the last report. Professor A. B. Aubert, who had been a member of the faculty for over thirty years, resigned in 1909, and Dr. Ralph H. McKee was appointed by the Trustees to the position of Professor of Chemistry.

The following table shows the registration in the Civil, Electrical, and Mechanical engineering departments since 1895:

TABLE SHOWING THE RELATIVE REGISTRATION SINCE 1894 OF THE DEPARTMENTS OF CIVIL, MECHANICAL, AND ELECTRICAL ENGINEERING

Year.	Total Civils.	Total Elec.	Total Mechs.	Total in Univ.	Total Engs.	Per cent of Engs. to total.	Per cent of Civils to Engs.	Per cent of Elecs. to Engs.	Per cent of Mech. to Engs.
1894-5	64	38	36	203	138	67.9	46.4	27.5	26.1
1895-6	59	53	47	243	164	67.5	36.0	35.2	28.8
1896-7	59	80	53	309	192	62.1	30.8	41.6	27.6
1897-8	64	77	61	306	202	66.0	31.6	38.1	30.3
1898-9	62	86	41	293	189	64.5	32.8	45.5	21.7
1899-0	75	82	38	316	195	61.7	38.5	42.0	19.5
1900-1	82	73	33	345	188	54.5	43.6	38.8	17.6
1901-2	102	86	35	350	223	63.7	45.7	38.6	15.7
1902-3	119	93	34	404	246	60.9	48.4	37.9	13.7
1903-4	138	107	52	433	297	68.6	46.5	36.0	17.5
1904-5	140	104	41	449	288	64.1	48.6	36.1	15.3
1905-6	138	112	53	476	303	63.7	45.5	37.0	17.5
1906-7	144	125	54	545	323	60.4	44.6	38.7	16.7
1907-8	149	120	56	580	325	56.0	45.9	36.9	17.2
1908-9	159	122	54	621	335	53.9	47.5	36.4	16.1
1909-10	147	121	56	608	324	53.3	47.4	37.4	17.3

If to the above, for 1909-10, is added 45 chemical engineers, the "Total Engineers" becomes 369 and "% of Engineers to Total" 60.7.

The personnel of the faculty of instruction of the College of Technology is so nearly like that of the University Faculty that meetings of the former are not held. Regular meetings of a committee of the faculty, known as the Engineering Faculty, are held during the week preceding the meeting of the general faculty. The Engineering Faculty is composed of those members of the faculty in the five departments comprising the College of Technology.

This committee has power "To arrange courses in the technical time; to act upon petitions relating to the administration of technical time; to determine under what conditions a student shall be advised to register or continue to register in an engineering course" Many questions of general policy have been discussed, resulting in recommendations to the general faculty. I consider that the work of this committee has been very fruitful, and has resulted in a saving of time of the general faculty, and has accomplished results in a much more comprehensive manner than was possible before its creation.

I wish to emphasize some of the recommendations appearing in the reports of the heads of the departments in this College. Especially important is the need for more space. The department of Chemistry is housed in a building unfit for the present needs, as well as being dangerous in case of fire. Both the departments of Mechanical Engineering and Electrical Engineering have equipment on hand as well as in prospect which can not be properly housed. The department of Civil Engineering is so crowded for room that many courses can not be properly presented. If new laboratories can be obtained for the departments of Chemistry and Physics, Fernald Hall, the present home of the department of Chemistry, can be converted into much needed space for offices and recitation rooms for other departments, and Win-gate Hall, where the department of Physics is now located, can be used by the department of Civil Engineering. At least a beginning should be made upon the building advocated by the head of the department of Mechanical Engineering, it being noted that the plan of this building contemplates its advancement in unit sections, as required.

Most of the members of the teaching force of the departments in this College are overworked. From fifteen to eighteen hours should be the maximum time for an instructor in the class room. Nearly all of the instructors in engineering spend much more than this, with the result that they can not do justice to their subjects. Additional instructors should be allowed, and enough salary should be available to keep a satisfactory man with us for more than one or two years.

One of the great needs of the engineering departments is a fully equipped hydraulic power house and laboratory. There are many places in the State of Maine where such a plant could be easily built, and with such facilities many of the courses could be developed to such an extent that they would become second to none in the country.

Engineering is a constructive art. The teachings of such an art wholly from books or lectures without object lessons is very difficult. The location of this institution is far from the large centres of active prac-

tice and construction, and many of the courses are consequently presented under difficulties. Trips of investigation are made by some of the students, usually in company with an instructor, to different points of interest, some of the trips being local, while others are more remote. Lectures are given by practicing engineers from New York and other large cities, the expenses being borne by the students. It is earnestly recommended that a yearly fund be appropriated for this purpose, as it is considered that these lectures result in much benefit to the students.

Although the conditions are far from ideal, the College of Technology is doing good work and accomplishing excellent results, and it is believed that the future will continue to show as constant improvement as the past.

Respectfully submitted,

H. S. BOARDMAN,

Dean of the College of Technology.

REPORT OF THE COLLEGE OF AGRICULTURE

To the President of the University:

DEAR SIR:—I have the honor to submit the following report of the College of Agriculture.

When the last biennial report of the College of Agriculture was submitted, two years ago, its various departments were temporarily housed in three or four of the other buildings of the campus. Now it has a building of its own, with class rooms, laboratories, and offices for each department. The new Agricultural Hall, completed and dedicated in January, 1909, together with the stock judging pavilion built from the same appropriation, now furnishes excellent facilities for instructional work. While some of the laboratories still lack considerable in the way of equipment, most of them are well fitted.

Possession of these new facilities has created an increased demand for them. Two years ago the records show that 27 students were enrolled for the four years' curriculum in Agriculture, 21 for the two years', 8 for special work, 31 for the Forestry curriculum, 49 in short courses, and 530 were enrolled for Farmers' Week. This year there are 48 enrolled in the four years' curriculum in Agriculture, 43 for the two years' course, 23 for the curriculum in Domestic Science, 40 for the curriculum in Forestry, and 4 for special courses. Last winter a total of 66 were enrolled for some one of the short courses and 470 attended Farmers' Week. This year there are 45 new students in Agriculture.

Mention has already been made of the Department of Domestic Science. This began its work as a regular department a year ago. It possesses a well equipped kitchen, a dining room, laundry, and sewing room. The number of regular students taking this work and the number of requests for special classes from Bangor, Old Town, and other near-by places is indicative of the demand for training of this kind.

To meet the demand for teachers of Agriculture in the secondary schools a one year teacher's course, open only to those of considerable training and experience, has been established.

In addition to the customary short courses in dairying and poultry keeping, a two weeks' short course in fruit growing was held last February. Its success warrants making it an annual affair. Plans for a short course in general crop raising for this coming winter are well under way.

Since the last biennial report was made, probably no department of the College of Agriculture has made such rapid growth as that of Agricultural Extension. An account of the way in which it is reaching the agricultural interests of the State is given in the report of the Supervisor of Agricultural Extension. Special mention should be made of the "Modern Farming Special" train which was run last June in co-operation with the Industrial Department of the Maine Central Railroad. On this two and one-half weeks' trip, stops were made at 57 points on the Maine Central, Boston & Maine, and Washington County railroads. At each stop visitors were given an opportunity to study the exhibits in the cars and at many places short addresses were given by members of the Agricultural faculty and other agricultural workers.

Recently the Department of Agronomy has been divided, one division handling the subjects of soils, fertilizers and farm crops, the other those of agricultural engineering and farm management.

During the two years under consideration there have been a number of changes in the Agricultural Faculty. Mr. William D. Hurd, Dean of the College of Agriculture and Professor of Agronomy, resigned in June 1909, to accept a position with the Massachusetts Agricultural College. Mr. Ernest D. Waid, Assistant Professor of Agronomy, and Mr. James E. McClintock, Supervisor of Extension Work, resigned at the same time. Messrs. Melvin E. Sherwin and George E. Simmons were appointed to fill their places. Mr. Henry G. Bell was obtained as Professor of Agronomy. Upon the recent resignation of Professor Sherwin, Professor Simmons was placed in charge of agricultural engineering and farm management. Dr. Leon S. Merrill was elected Supervisor of Agricultural Extension in the place of Professor Simmons. Miss Laura Comstock was elected to take charge of the Department of Domestic Science. Mr. James R. Dice and Mr. Wintha R. Palmer were appointed one year ago as the additional instructors in the Departments of Animal Industry and Horticulture. The recent resignation of Professor Gordon E. Tower as head of the Department of Forestry has been filled by the appointment of Professor John M. Briscoe.

While the past two years have seen the addition of two new instructors for the strictly agricultural work of the College of Agriculture and of one Assistant Professor to take charge of the Department of Domestic Science, the greatly increased number of students and the constantly increasing demands upon the time of the teaching staff for extension and demonstration work through the State are such as to make additional help necessary. The agricultural interests of the State are looking to the University for assistance in many ways. Lectures and demonstrations on all phases of farm life are wanted by granges, stock and poultry breeders' associations, horticultural societies, teachers' association, farmers' clubs, churches, and many other organizations, and by individuals. The College of Agriculture should be prepared to offer this assistance and lead in the agricultural awaken-

ing that is taking place. Many of the classes in Agriculture are now of such size that they tax to their limit the capacity of the lecture rooms and laboratories. Further increase in size will mean increase in the number of sections and this will necessitate more instructors. The Departments of Agronomy, Animal Industry, Domestic Science, Forestry, Horticulture, and Poultry Husbandry each need an additional instructor.

The development of the new farm near Stillwater is mentioned in the report of the Professor of Agronomy. This piece of land is rapidly being changed into a model farm. It is not only growing a large amount of feed that formerly had to be bought by the University but it is furnishing the students in Agronomy with excellent material for field and laboratory study.

The necessity for new barns and greenhouses is again urged in the reports of the Departments of Animal Industry and Horticulture. These new buildings should be provided at the earliest possible opportunity. The College of Agriculture also needs a farm machinery building. Something cheaply but at the same time, substantially, constructed, like the stock judging pavilion, would well serve the purpose.

The importance of additional funds for extension work can hardly be over-emphasized. A more detailed account of the work and special needs of this department is found in another place.

The College of Agriculture is coming to have a more important part in the development, not only of the agriculture, but of the general industrial conditions of the State. Its work is not only in its classrooms and laboratories, but throughout the commonwealth. It should not only teach its students how to farm successfully, but in a broader way, it should make our general agriculture more profitable and rural life more enjoyable. Because it is attempting to serve in this way it asks for improved machinery and increased operating expenses.

Respectfully submitted,

V. R. GARDNER,

Acting Head of the College of Agriculture.

REPORT OF THE LIBRARIAN

To the President of the University:

The total number of volumes in the University of Maine libraries on June 30, 1910, according to the accession records, was 42,383, of which 35,927 were in the General Library, 3,295 in the Law Library, and 3,161 in the Library of the Agricultural Experiment Station.

Figures compiled for the State Auditor show that the cost of the General Library has been \$41,257.25, the Law Library \$9,405.41, and the Experiment Station Library \$9,439.30, a total of \$60,101.96. The inventory of the furniture and equipment of the General Library shows a valuation of \$6,838.25.

The total number of accessions for the two years ending June 30, 1910, was 5,507, of which 4,494 were added to the General Library, 349 to the Law Library, and 454 to the Experiment Station Library. The amount paid out for books, periodicals, binding, etc., 1908-10, was as follows: General Library, \$6,057.82; Law Library, \$1,293.86; Experiment Station Library, \$1,839.46; total, \$9,191.14. The books for the Experiment Station Library are ordered by the Director of the Station and the bills do not go through the hands of the Librarian. There is a record of those received, and they are catalogued by members of the library staff, but the Library has no record of the cost of the various volumes or the source of gifts to the Station Library.

Of the 5,307 volumes added to the General and Law Libraries, 2,111 were obtained by purchase, 1,065 by binding, and 2,131 by gift. The purchases were distributed as follows: General Agriculture, 69; Agronomy, 14; Animal Industry, 20; Bibliography, 39; Biological and Agricultural Chemistry, 22; Biology, 26; Botany, 14; Chemistry, 52; Civil Engineering, 42; Domestic Science, 62; Economics and Sociology, 98; Education, 80; Electrical Engineering, 35; English, 487; Fine Arts, 41; Forestry, 3; German, 74; Greek, 9; History, 111; Horticulture, 45; Latin, 9; Law, 328; Local History, 33; Mathematics and Astronomy, 20; Mechanical Engineering, 19; Mechanics and Drawing, 7; Military Science, 1; Miscellaneous, 110; Pharmacy, 1; Philosophy, 55; Physics, 31; Poultry Husbandry, 10; Reference, 81; Religion, 32; Romance Languages, 31; Veterinary Science, and Bacteriology, 10. Special provision was made in 1908-9 for Philosophy, and in 1909-10 for English, Chemistry, and Domestic Science.

There is a special charge of ten dollars a year for each student in the College of Law which is set aside for library purposes; this has been nearly enough to meet the requirements for the last two years and it is expected that hereafter there will be no draft made for the Law Library upon General Library funds.

As heretofore, the largest number of gifts has come from the Superintendent of Documents, most of which come to us as a designated depository for all ordinary government publications, from the Maine State Library, including all the State of Maine publications, and from the libraries of a number of other states with which an exchange was arranged by the late L. D. Carver, State Librarian. A large number of books were received from the publishers, chiefly for a text book collection for the Department of Romance Languages. Many individuals remembered the Library generously, among them Miss Mary King Longfellow of Portland, who had previously presented the Library with several hundred volumes from the library of her father, Alexander W. Longfellow; another generous giver was the estate of the late Fred Atwood, at one time a trustee of the University; the largest individual gift was from Professor A. B. Aubert, and many other individuals in the faculty and among the alumni gave books to the Library. A set of Massachusetts Soldiers and Sailors of the Revolutionary War was sent us by the Secretary of the Commonwealth of Massachusetts, at the request of Hon. E. E. Hobson, Law 1900, a member of the Massachusetts Legislature. Hon. L. C. Southard, '75, has continued to turn over to the University, for the benefit of the Law Library, the fee paid him for his lectures at the College of Law. A list of the sources from which gifts were received, with the number from each, is appended to this report.

Among the sets of special importance bought for the General Library are the following: Nelson's Loose-leaf Encyclopedia, Catholic Encyclopedia, Oxford Dictionary, Bosworth's Anglo-Saxon Dictionary, Cyclopedia of Civil Engineering, Cyclopedia of Drawing, Cyclopedia of Textile Work, Gardiner's History of England, Documentary History of American Industrial Society, Lankester's Treatise on Zoology, Proceedings of the American Pomological Society, Proceedings of the American Gas Institute 1906-date, Chamberlin and Salisbury's Geology, Maxwell's Scientific Papers, Thompson's Mathematical and Physical Papers, Abegg's Handbuch der Anorganischen Chemie, Meyer-Jacobson's Lehrbuch der Organischen Chemie, Beilstein's Handbuch der Organischen Chemie, Richter's Lexikon der Kohlenstoffverbindungen, Courthorpe's History of English Poetry, and the works of Beaumont and Fletcher, Lyly, Addison, Macaulay, Milton, Swift, Lamb, Richardson, the Bronte sisters, Austen, Fielding, Smollett, Defoe, Kingsley, Meredith, Stevenson, Byron, Tennyson, Poe, Tolstoi, and Alexander Hamilton.

The most important addition to the Law Library was the American Digest, and another worthy of mention was Definitions of Words and Phrases.

Among the noteworthy additions to the Station Library were Bredfeld's Botanische Untersuchungen, Allgemeine Zeitschrift für Entomologie, Entomologica Americana, and Chemical Abstracts.

The list of periodicals received regularly was given in the report of two years ago, and as but few changes have been made, it is not repeated here.

The library staff for 1908-9 was nearly the same as in the preceding year, with Miss Isabel Monro, B. S., cataloger, and Miss Bertha C. Whittemore, assistant. Owing to ill health, Miss Monro took a long vacation in the summer of 1909, but the improvement was so slight that her physicians obliged her to discontinue library work entirely, and her resignation was accepted in December, 1909. The position of cataloger was filled by the transfer of Miss Whittemore, and the vacancy by the appointment as assistant of Miss Helen W. Stobie, formerly librarian of the Hollingsworth and Whitney Library at Winslow, and a graduate of the one year course in library economy at Simmons College.

During all of 1908-9 and most of 1909-10 a vacancy in the staff, caused by the resignation of Miss Maude W. Colcord, who accepted a more remunerative position elsewhere, remained unfilled. All of the evening and the Sunday work, with some other, was done by undergraduate assistants, but this was not altogether satisfactory, and in May, 1910, Miss Julia L. Crocker was appointed assistant. She had been librarian of the Calais, Maine, Free Library for nearly two years, and before that had completed three of the four years of the regular course in library economy at Simmons College. Such time as she is able to spare from other duties will be given to cataloging our valuable collection of public documents, which has unfortunately been somewhat neglected for more pressing demands. The Library staff is smaller than in many other institutions where the use of the Library and rate of growth do not equal our own. The work of the cataloger and the assistants averages 44 hours a week, with one month's vacation, longer hours than seems wise for work of this character, but less cannot be required under present conditions.

Every department of the University is dependent in part upon the equipment and maintenance of the Library, and every institution is judged to-day by its library facilities. As liberal provision as is possible should be made for its maintenance.

An urgent need of the Law Library is the installation of electric lights between each pair of stacks, as the lack of light at present makes it almost impossible to find the books on the shelves in the late afternoon and evening, during which there is general use of the Law Library by the law students.

At the time our new building was erected, in 1906, it was estimated that its accommodations would suffice for ten years. Although there is no immediate danger of overcrowding, the need of additional accommodations within a few years is sufficiently evident to make it clear that plans for the future must be made. Possibly the best arrangement would be to erect a building on what is called the back road, directly opposite the Library, similar to it in style of architecture, which shall temporarily provide suitable accommodations for those departments which are dependent upon the Library for laboratory purposes, such as the languages, history, economics, and philosophy, none of which now have suitable accommodations, and connect this with the extension to the stacks that must be made for shelving books. Later, this building

might be transferred to the Library and other provisions made for the departments it housed temporarily.

Following is a list of those by whom books have been presented to the Library during the last two years, with the number from each:

E. Stanley Abbot, 2; Allyn & Bacon, 3; American Anti-Boycott Association, 1; American Bar Association, 3; American Book Company, 19; American Breeders Association, 1; American Esperantist Co., 1; American Pharmaceutical Association, 2; American Railway Bridge and Building Association, 2; American Society of Mechanical Engineers, 2; American Swedenborg Printing and Publishing Co., 20; D. Appleton & Co., 1; Archaeological Institute of America, 1; Argentine Republic Department of Agriculture, 1; Arkansas Geological Survey, 1; Association of Life Insurance Presidents, 3; Estate of Fred Atwood, 19; Professor A. B. Aubert, 99; Commonwealth of Australia, 1; Bancroft-Whitney Co., 1; City of Bangor, 4; Bangor Public Library, 8; Bangor Theological Seminary, 8; C. W. Bardeen, 4; Wharton Barker, 1; Frank C. Barrett, 1; W. E. Barrows, '02, 1; Beta Eta of Beta Theta Pi, 2; Ben Blewett, 17; Board of Casualty and Surety Underwriters, 2; Boston-Cambridge Bridge Commission, 1; Boston Public Library, 1; Boston Transit Commission, 1; Charles Bradley, 1; Capt. W. S. Brown, 2; Brown Alumni Magazine Co., 1; Bureau of Railway News and Statistics, 1; California State Library, 1; California Department of Horticulture, 1; Cambria Steel Co., 1; Cambridge University Press, 5; Prof. P. A. Campbell, 2; Canada, Department of the Interior, 15; Canada, Royal Astronomical Observatory, 2; Canadian Forestry Association, 1; Carnegie Foundation, 4; Carnegie Institution, 35; Prof. J. W. Carr, 2; Paul Carus, 1; H. N. Casson, 1; G. W. Chamberlain, '85, 1; Chicago Association of Commerce, 1; Chicago, Board of Supervising Engineers, 1; Chicago, Controller, 1; Chilean Nitrate Works, 1; Colby College, 1; Colorado Agricultural Experiment Station, 1; Colorado State Board of Health, 1; Connecticut Bureau of Railway Statistics, 1; Connecticut State Library, 27; Cornell Agricultural Experiment Station, 1; Cornell University, 1; G. T. Corning, '10, 1; Rev. E. M. Cousins, 1; Prof. Wallace Craig, 4; Prof. W. P. Daggett, 2; Joseph Debar, 1; Democratic National Committee, 1; Emmett Densmore, M. D., 2; J. B. Dill, 1; DuPont-deNemours Powder Co., 1; Economics and Sociology Classes, 15; Hon. L. A. Emery, 2; Mrs. H. M. Estabrooke, 5; Farmers' National Congress, 1; E. C. Farnsworth, 1; President G. E. Fellows, 5; Prof. M. C. Fernald, 3; Fidelity and Casualty Co., 1; Henry Fink, 1; Florida Department of Agriculture, 1; H. S. French, '86, 5; Hon. W. P. Frye, 5; Georgia Agricultural Experiment Station, 1; Georgia Geological Survey, 4; Ginn & Co., 18; S. M. Griswold, 1; Hon. F. E. Guernsey, 14; Hon. Eugene Hale, 3; General Charles Hamlin, 5; F. B. Hanley, 1; Dean J. N. Hart, 2; Harvard Law School, 3; Harvard University, Jefferson Physical Laboratory, 2; Haverford College, 1; Hawaii, Board of Commissioners of Forestry and Irrigation, 1; D. C. Heath & Co., 18; H. N. Higginbotham, 1; C. L. Himebaugh, 2; Hispanic Society of America, 1; E. F. Hitchings, '75, 1; Holstein-Fresian Association of

America, 3; Henry Holt & Co., 15; J. A. Homan, 1; Idaho State Library, 2; Illinois Agricultural Experiment Station, 3; Illinois State Bureau of Labor Statistics, 3; Illinois State Geological Survey, 5; Illinois State Laboratory of Natural History, 1; International Bureau of American Republics, 2; Iowa Board of Railway Commissioners, 2; Iowa Board of Railway Statistics, 1; Iowa Department of Agriculture, 1; Prof. W. F. Jackman, 3; W. R. Jenkins, 103; Prof. A. C. Jewett, 1; R. K. Jones, '86, 1; W. H. Jordan, '75, 3; Kansas Agricultural Experiment Station, 1; Kansas State Board of Agriculture, 1; Kansas State Board of Health, 1; Keefe-Davidson Co., 1; Kentucky Department of Education, 1; Lake Forest College, 4; Lake Mohonk Conference, 4; University of La Plata, 2; Ambrose Lee, 1; A. L. Lasher, 1; Little, Brown & Co., 1; Miss Mary King Longfellow, 24; R. E. Lord, '06, 1; Duc de Loubat, 3; C. S. Lunt, '84, 10; G. W. McAleer, M. D., 1; Macmillan & Co., 8; S. S. McClure Co., 1; Maine Bank Examiner, 2; Maine Department of Public Instruction, 1; Maine Enforcement Commission, 1; Maine State Library, 126; Maine State Treasurer, 1; Maine Society of Mayflower Descendants, 1; Maine W. C. T. U., 1; Mass. Bureau of Statistics of Labor, 2; Mass. Highway Commission, 1; Mass. Secretary of State, 17; Mass. State Board of Agriculture, 3; Mass. State Board of Charity, 2; Mass. State Board of Insanity, 3; Mass. State Forester, 1; Hon. R. Masujuma, 1; Maynard, Merrill & Co., 3; Mentzer & Grover, 1; Merck & Co., 1; Michigan Agricultural College, 1; Michigan Board of Agriculture, 3; Michigan State Library, 87; University of Michigan Library, 8; B. K. Miller, 1; Minneapolis Publicity Club, 1; Minn. Agricultural Experiment Station, 2; Minn. Bureau of Labor, 1; Minn. Geological and Natural History Survey, 1; University of Minnesota Library, 5; Miss. Department of Archives and History, 2; Missouri Botanic Garden, 2; University of Missouri, 1; Mitchell Publishing Co., 2; J. H. Moore, 1; National Academy of Science, 1; National Conservation League, 1; National Lumbermen's Association, 1; National Prison Association, 8; Nebraska Bureau of Labor, 1; New England Society of New York, 1; N. H. Horticultural Society, 2; N. H. State Library, 89; N. J. Bureau of Statistics, 2; N. J. Geological Survey, 2; N. J. State Board of Agriculture, 1; N. J. Sanitary Association, 1; New Orleans Sewerage and Water Board, 1; N. Y. (State) Advisory Board of Consulting Engineers, 1; N. Y. Agricultural Experiment Station, 3; N. Y. Department of Education, 6; N. Y. Department of Labor, 1; N. Y. State Board of Pharmacy, 1; N. Y. State Engineer, 2; N. Y. State Library, 10; N. Y. (City) Board of Water Supply, 5; N. Y. Department of Finance, 1; N. Y. Merchants Association, 1; N. C. Agricultural Experiment Station, 1; N. D. State Geological Survey, 1; N. D. State Treasurer, 1; Miss Margaret Norton, 4; Office of the University, 11; Ohio State Library, 56; Ohio Society S. of R., 1; Okla. State Board of Ag., 1; Felipe Pardo, 1; Pa. State College, 1; Pa. State Dept. of Forestry, 1; P. I. Bureau of Education, 1; Dr. F. W. Putnam, 2; G. P. Putnam's Sons, 3; Railway World, 1; G. L. Raymond, 9; Miss G. A. Reed, '10, 3; Republican National Committee, 1; R. I. Bureau of In-

dustrial Statistics, 1; Ridgeway Co., 1; Allen Rogers, '97, 1; P. D. Sargent, '96, 2; Miss Marshall Saunders, 2; Scandinavian-American Line, 1; Scott, Forseman & Co., 1; Charles Scribner's Sons, 2; Prof. M. T. Scudder, 2; Prof. J. B. Segall, 1; Silver, Burdett & Co., 4; Smithsonian Institution, 10; Society of American Florists, 1; L. C. Southard, '75, 1 (and gift of \$60 for Law Library); Stanford University Library, 1; Standard Oil Co., 6; G. S. Staunton, 1; G. E. Stechert & Co., 5; Frank P. Stearns, 5; Storrs Agricultural Experiment Station, 3; Testimony Publishing Co., 2; D. S. Thomas, '09, 1; Prof. G. A. Thompson, 1; Prof. G. W. Thompson, 2; Towle Mfg. Co., 1; Trow Press, 1; G. M. Tucker, 1; U. S. Superintendent of Documents, 671; U. S. Miscellaneous Departments, 154; U. S. Brewers Association, 7; Unknown, 14; Uruguay, 1; Va. Agricultural Experiment Station, 1; Dean W. E. Walz, 4; Washington Academy of Science, 1; Washington University, 1; Wesley Webb, '75, 2; West Publishing Co., 2; West Virginia University, 1; Williams College, 1; J. C. Winston Co., 1; Wis. Agricultural Experiment Station, 1; Wis. Dairy and Food Commission, 1; Wis. State Historical Society, 6; Wis. State Horticultural Society, 1; Prof. C. D. Woods, 35; Prof. L. E. Woodman, 1; H. P. Wright, 1; Wyoming State Dairy Commissioner, 1; Yale University, 1; Young Churchman Co., 1.

Respectfully submitted,

RALPH K. JONES,

Librarian.

REPORT OF THE DEPARTMENT OF GREEK AND CLASSICAL ARCHÆOLOGY

To the President of the University:

I have the honor to submit the following statement bearing upon the work of the department:

By a vote of the Trustees two years ago, the name of the Department of Greek was changed to that of Greek and Classical Archæology, a change that more nearly represents the scope of work now embraced in my courses.

Since the establishment of the Department of Greek twelve years ago, I have undertaken as part of my work certain courses in the history of Renaissance Art; this initial step in a department of Fine Arts went along naturally with the purpose of the University Guild, established at the same time for a more general interest in art study, and particularly in the formation of an art collection at the University. The Guild has since dropped out of existence, but the art collection was achieved and the purpose fulfilled by bringing together a representative collection of reproductions of the world's best art monuments. This apparatus, or what might be termed laboratory facilities, for art history, numbering several thousand reproductions, renders possible scholarly work in a field where without such facilities little serious work could be accomplished.

It will be observed from a comparison of our catalog of two years ago, and that of 1911, that we have made large additions to the courses in History, Sculpture, Architecture, Religion, Private Life, and the Greek New Testament; and it would seem from the large increase in the registration in Greek that these new courses were to fill a real gap and render a distinct service.

This change is an acknowledgement that Greek henceforth must be more than Greek has been in the past. The culture of ancient Greek civilization in the present day world is no less a large factor than it has been, but the multiple demands of modern electives has forced the humanities to stand each upon its own merits. It is doubtful if the study of Greek can again hold the preeminence of a generation back; in the new adjustment, however, which is attending this movement in academic studies, the Classics will find their rational place.

Greek must stand, therefore, for the Greeks and for what they accomplished for man's advancement, and it devolves upon departments such as mine to be the means of interpreting the various aspects of the

Greek genius, not only for students of the Greek language, but for the much larger number who do not include the latter in the plan of their college studies.

Another feature of my work still remains to be spoken of, and that is the slight attempt I have made to fill in the unoccupied fields of Bible literature and historical architecture. I have already noted in an earlier report the importance of establishing at some time, in the near future, a department of Architecture in our College of Technology. My courses are confined almost entirely to the Classical period and its immediately following styles in Byzantine and Romanesque epochs.

The courses on the development of the literary sides of the Old and New Testaments introduced two years ago, and offered in alternating years, present work that may at some later time be given in another department where it will receive the full amount of time and attention due to this great field.

Respectfully submitted,

J. H. HUDDILSTON,

Professor of Greek and Classical Archæology.

REPORT OF THE DEPARTMENT OF LATIN

To the President of the University:

In behalf of the Latin department, I beg to report that the requirements of the B. A. degree, making College Latin no longer compulsory, has resulted in a less number in the Latin classes. This has been partially, though not wholly, made up by the numbers of students taking the new course in Roman History.

In five years the University has expended less than \$5.00 for equipment of the Latin Department, with the exception of some books bought for the library. I spent the summer of 1909 in Italy to prepare myself for the course in Roman history which I was about to offer. I asked the University for \$200 for the purchase of illustrative material in connection with the course. The request was not granted. The department is at present not equipped to give a course in Roman History. The subject cannot be satisfactorily taught from text books. I have spent over \$500 on my own account for material which is available, but not sufficient. I therefore repeat the request for \$200 to be spent for photographs, casts, charts, and similar material for the study of history.

Respectfully submitted,

GEORGE D. CHASE,

Professor of Latin.

REPORT OF THE DEPARTMENT OF ENGLISH

To the President of the University:

I have the honor to present the following report concerning the department of English:

During the year 1908-1909 Professor Guy A. Thompson was acting head of the department. I took up my duties as head of the department in September, 1909. There were associated with me, during the academic year, Professor G. A. Thompson, Professor Daggett, Assistant Professor Weaver, Mr. Prince, and Mr. Pearson. Our total enrollment of students, in required and in elective courses, was approximately 540. The total number of major students was 13, of whom one was a candidate for the Master's degree. At present, 1910-1911, there are 17 major students, of whom two are candidates for the Master's degree.

The department was at once organized on as simple a working basis as is possible under present conditions. Staff meetings were held occasionally throughout the year, thereby giving greater unity and efficiency to our work.

A few changes were made in the courses of study, and in the general arrangement and division of work. The number of hours devoted, in the Freshman year, to the theoretical side of rhetoric and composition was decreased and the amount of writing increased. The Sophomores, in the past, had no class room instruction in rhetoric and composition. They were required simply to hand in essays at stated intervals and to attend conferences. Beginning with the autumn of 1910 they will be required to elect two hours the first semester and one hour the second in either Exposition, or Argumentation and Debate. An elective course in "Advanced Composition" was introduced for Juniors and Seniors. In order to make the instruction in all the composition courses as practical and efficient as possible, conferences, in which the student's written work is discussed with him individually, will hereafter be held at least once a month in connection with each course. As the work is now graded, no student will be allowed to take Sophomore English until he has passed Freshman English.

The courses in language and literature have been differentiated into courses for undergraduates and those primarily for graduates. The following courses are either introduced or are practically new: two in Anglo-Saxon, one devoted to the reading of Beowulf, the other to Cynewulf's poetry; two in Middle English; a brief lecture course, exclusively for engineers, in the History of English Literature; two devoted exclusively to Shakspeare: the History of the English Drama: the

Eighteenth Century (1700-1770) writers; the Victorian Period (1830-1900); an English Seminary in which the topic for study and investigation varies from year to year.

In Public Speaking, heretofore, very little, if any, attention was paid to debating. To revive interest in this important subject, Mr. Alvin Ketcham, especially fitted by training, experience, and enthusiasm for the work, has been appointed instructor in argumentation and debate. Mr. Ketcham has already succeeded in forming three debating clubs: one for the Freshmen, one for the Sophomores, and one for Juniors and Seniors. The students get no "credit" for this work. They are, however, meeting regularly and doing good work. As now arranged a student may begin the elements of argumentation in his Freshman year, elect a more advanced course in his Sophomore year with some practice in debating, and elect an advanced course in debating in the Junior and Senior years.

In the spring, Mr. George E. Pearson, for several years instructor in English, and for one year instructor also in Economics, resigned. He intends, I believe, to devote himself exclusively to History and Economics. Mr. Alvin Ketcham, A. B., LL. B., of Ohio State University and Law School, has been appointed to succeed Mr. Pearson.

The needs of the department are chiefly three: 1—More books. Books are to the language departments, particularly English, what apparatus of various kinds is to the departments of science. We cannot do good work without them. The need is imperative, notwithstanding the additions to the English collection made during the year. I am glad to take this opportunity to express my appreciation of the recognition promptly given this year to the dire need of the English department by the library committee. 2—A lantern, that we may illustrate our lectures. The department has about 200 slides; but finds borrowing lanterns from other departments impracticable. A lantern placed in the library lecture room would serve several departments, as well as the English. 3—Lecture rooms for the whole department in one building. At the present time the English department has rooms in five different buildings. Obviously this wastes the time particularly of the head of the department, and makes it more difficult for him to keep in touch with the department as a whole. A lecture room large enough to seat comfortably a whole class is also needed.

Respectfully submitted,

ROLAND P. GRAY,

Professor of English.

REPORT OF THE DEPARTMENT OF ROMANCE LANGUAGES

To the President of the University:

Three languages, French, Italian and Spanish, each occupying a leading place in modern civilization, are looked after by this department. Its time being, of necessity, taken up, almost exclusively, with the elementary work, but relatively little attention, with the present staff, can be given to the legitimate development of the more advanced courses. To bring the department up to the point of efficiency befitting an institution of the rank of the University of Maine, an additional instructor is, therefore, needed.

To enable us to carry on the necessary work with our more advanced students, and to stimulate the spirit of scholarship among them, more books are required. The great difficulty of the Romance Language department, as far as library facilities are concerned, has been throughout that although three of the most important modern languages, French, Italian and Spanish, not to mention the less important members of the Romance group, are represented therein, it has thus far received only a scanty allowance, entirely inadequate for the most urgent needs of even one of those languages. Only by an annual allowance of several hundred dollars can it be hoped to gradually build up a departmental library worthy of an institution of the rank and importance of the University of Maine. Maps, pictures, and other similar teaching materials illustrating the history of the literature and civilization of France, Italy and Spain, are likewise urgently needed.

Respectfully submitted,

J. B. SEGALL,

Professor of Romance Languages.

REPORT OF THE DEPARTMENT OF GERMAN

To the President of the University:

I have the honor to submit the following report of the Department of Germanics:

We have an enrollment of 153 students for the present year. The work of the first year includes a thorough drill in essentials and fundamentals; the second year completes this work, added emphasis being laid on composition; the third and fourth years are devoted to a more vital historical and cultural acquaintance with the German language and literature.

In addition to these regular courses, we offer a course in Faust, Old High German and conversation. The scope of the German work has been enlarged, and increased facilities are offered to those who wish to pursue their study beyond the ordinary limits.

Our present needs are better class-rooms, with ample blackboard facilities, more maps, a good collection of pictures which will present the various phases of German life, as well as art, and additions to the German library.

The undersigned is ably assisted by Dr. R. R. Drummond, and the work is progressing to our satisfaction.

Respectfully submitted,

GARRETT W. THOMPSON.

Professor of German.

REPORT OF THE DEPARTMENT OF HISTORY

To the President of the University:

The Department of History has made steady progress since my last report. A separate course in United States History since 1850, for technical students, has given even better results than were anticipated. From entrance examinations and the work of students in the department, it has been found that the majority enter with a fair knowledge of Colonial history, less knowledge of the early National period, and very little knowledge of recent United States history. The above statement also holds true for history in general, and the department now plans to offer a course on the recent history of other countries, giving the larger part of the time to Europe and the British Empire. This course will be planned especially for the students in the colleges of Technology and Agriculture, and its aim will be to enable students (quoting from the preface of a recent work) "to catch up with their own times, to read intelligently the foreign news in the morning paper."

The regular courses offered primarily for the students in the College of Arts and Sciences, including the graduate work, remain substantially the same as at the time of my last report.

The course in the Social and Industrial History of England has been extended to include American development along the same lines. Greek and Roman history are now given in the Departments of Greek and Latin and the addition of these courses enables students who plan to teach to prepare for all history taught in secondary schools. During the summer terms of 1908 and 1909, history courses were offered in connection with economics and sociology, but in 1910 provision was made for separate department work.

The needs of the department are still great, as few of those mentioned in my last report have been supplied. We have benefited, however, in many instances by the books which have been bought for other departments, especially those of English, Philosophy, and Education.

Respectfully submitted,

CAROLINE COLVIN.

Professor of History.

REPORT OF THE DEPARTMENT OF ECONOMICS AND SOCIOLOGY

To the President of the University:

During the year 1909-10, Mr. Pearson taught one section of elementary Economics, two hours per week for the year. This year, however, no assistance has been available. The department cannot expand to meet the demand, and many calls for courses in various economic and sociological subjects have to be turned down.

At present the department is in great need of apparatus, especially of an equipment for showing lantern slides. The room has been fitted with shades, but the equipment has not been completed. The department ought to build up a good cabinet of slides and have a lantern constantly ready for operation when needed. Modern methods of work make such things necessary for the best results.

I should also like to bring to the attention of the Trustees the need of a division of this work into a department of Economics and another of Sociology and Government, with two professors, or the employment of another instructor in this present department.

There is plenty of work for one man in economics alone, for we are not meeting the demand for more extended courses in banking, accounting, business methods, insurance, etc.

Much more time should be given to rural sociology as distinguished from the urban type. Maine offers a prolific field and special opportunities for study and work in this direction.

This is an age of great industrial and social interests and there is a lively call for courses in this field, but one professor cannot adequately meet the demand. The addition of an assistant would help out greatly in placing the department in a progressive state.

Respectfully submitted,

ROBERT J. SPRAGUE,

Professor of Economics and Sociology.

REPORT OF THE DEPARTMENT OF MATHEMATICS AND ASTRONOMY

To the President of the University:

The following changes have taken place in the teaching force of this department since my report of two years ago:

At the end of the college year, 1909, Professor Willard was granted a leave of absence for one year, and in June, 1910, this leave was extended for another year. Professor Willard is continuing graduate work at Yale University. In the spring of 1909, Mr. Moots resigned to accept a position at the University of Wisconsin; and Mr. Sweet became Principal of Orono High School. The vacancies thus made were filled by the appointment of Messrs. Truman L. Hamlin, Sherman D. Chambers and Walter E. Wilbur. Mr. Hamlin is a graduate of Western Reserve University and an M. A. of the University of Missouri, and has had several years' experience as a teacher, both in college and in preparatory schools. Mr. Chambers, a graduate of Baldwin University, had been a graduate student and instructor at Ohio State University and associate professor of mathematics at North Dakota Agricultural College. Mr. Wilbur is a graduate of the University of Maine, 1908, and had taught one year in Orono High School. All of these gentlemen have rendered efficient service.

We were fortunate in having no resignations from the teaching force this year. By reason of my appointment as Acting President of the University for the term September 1 to December 1, 1910, a re-arrangement of the work of the department was made necessary. Mr. Charles L. Graham has been appointed assistant in mathematics for the fall semester.

The additions to the mathematical curriculum consist of a one-hour course, extending through the year, in the history of mathematics, and a two-hour course throughout the year in analytic geometry and calculus, arranged especially for students in chemistry and for B. A. students wishing only a brief treatment of these subjects. The course in advanced analytic geometry has also been extended to three hours a week throughout the year. The re-arrangement of Freshman mathematics spoken of in my report of two years ago has proven very satisfactory.

At the Commencement in 1909, two students received the B. A. degree and two the B. S. degree for work in mathematics; in 1910 three received the B. A. degree.

During the year 1909-1910, the department followed the practice of holding regularly each day a consultation hour, the instructors serving in turn. This regular assistance has been much appreciated by the students and the practice will be continued.

A combined transit instrument and zenith telescope has been constructed for us by Carl Bamberg of Friedenau, Germany. This instrument will enable us to make the instruction in astronomy much more complete. As to the further needs of the department, I simply quote from my report of two years ago.

"The following is a fair estimate of the cost of the needed additions, the items mentioned first being most imperatively needed:

A small building with dome for the vertical circle....	\$400
A standard astronomical clock.....	400 to 600
A chronograph	150 to 250
A reflecting circle	200
An artificial horizon	50

In the near future there should be added to the observatory a room that may be heated and used for a computing room and also, perhaps, as a class-room. There is still great need of considerable additions to the mathematical section of the library, both single volumes and sets of bound volumes of mathematical journals. Several hundred dollars could be immediately and profitably used for this purpose. It would be of great advantage to the department to have three additional large recitation rooms fitted with slate blackboards. The rooms now used by some of our classes are unsuitable for mathematical instruction."

Respectfully submitted,

JAMES N. HART,

Professor of Mathematics and Astronomy.

REPORT OF THE DEPARTMENT OF EDUCATION

To the President of the University:

The Department of Education in the University of Maine opened at the beginning of the school year of 1906-7. Since the preparation of teachers for the elementary schools is the special function of the Normal Schools, the organizers of the Department of Education in the University determined to restrict its activities to the preparation of teachers for high school positions and of candidates for the positions of principal and superintendent. With this intent, the fundamental courses in the history of education, in organization and administration, and in educational psychology were established. Courses were also offered in the pedagogy of each high school study and a research course for the collection and discussion of data pertaining to the special duties of the superintendency. The work of the department, so organized, has continued with little change for four years. During this time, there has been a steady increase in the number of students taking the courses and, among the students of the University, a gratifying growth in the conviction that some study of the history and art of the education is desirable if one wishes to join the ranks of the teachers. It is now a question whether the time has not come when the University should decline to recommend graduates for positions if they have not taken some of the courses in education which the University, by establishing a Department of Education, has declared needful for all teachers.

During the past five years, the movement for agricultural, general industrial, vocational, trade, and continuation schools has rapidly gained in strength and definiteness in this and other states. It would seem to be the function of this University to train teachers and administrative officers for all schools of secondary grade whether cultural or industrial. The calls for such teachers grow more imperative, year by year. The time seems opportune for a careful discussion of the desirability of such a reorganization of the Department of Education as will enable it to unify and direct this instruction and training to the best advantage.

A Department of Education in a University stands in a peculiar relation to the student body and to the other departments or colleges of the University. Practically all of its students owe their allegiance first to the department or college in which they major. Now, in few of the departments or colleges is the work organized primarily for the training of teachers; this is notably true in the colleges of Agriculture and Technology and true also in many departments of the College of Arts and Sciences. It follows, therefore, in the clash of interests that must arise, in conflicts in program hours, in emphasis upon content in the courses given, that the interests of those who plan to teach must suffer.

It would seem that such students should be under the direction of the Department of Education working with a coadjutor from the college or department in question.

Further, it would seem advisable, so far as may be practicable, that there should be in each college or large department some one instructor who has had experience in, and is thoroughly conversant with, the conditions which such students must meet as teachers of their specialty in secondary schools. For example, a college devoted to engineering does not need to offer for the training of engineers work in wood and iron as advanced as the teachers of a four years' course in wood and iron in a secondary school require. If such applicants are to receive satisfactory training, supplemental and advanced courses should be offered by an instructor of successful experience in the teaching of such courses in secondary schools since the students seek from him both content and method, and such instructor, it would seem, should also be a member of the staff of the Department of Education that the special practice and the general theory may be unified and the work of the pupil planned to the best advantage.

The study of theory and the acquisition of skill in handicraft will not alone suffice for the equipment of a successful teacher; the training should include also opportunity for observation and practice in the schoolroom under criticism. Those who are studying the problems of the superintendency should also follow the working out of specific problems under the guidance of skilled administrative officers who have the authority to institute experiments and to control the conditions under which the experiment is carried on. Those who expect to teach in high schools should practice for some weeks under supervision in a school under the control of the Department of Education. Under present conditions, no experience of value seems obtainable beyond some visitation of schools when the requirements of the various class-rooms permit. I would suggest the desirability of an agricultural high school under the joint control of the College of Agriculture and of the Department of Education. I believe that such a high school as an object lesson to the State would return to the State a heavy interest on the investment. It would also meet the needs of the Department of Education better than any other school, as the course of study would include cultural courses and the fundamental handicraft courses, and through its administration it would afford means for study to those training for executive positions.

The State has already shown its willingness to foster the teaching of agriculture and the mechanic arts in the secondary schools. Unskilled teaching is economic waste; the State will logically look to its University for the teachers of these subjects; it follows necessarily that it will supply its University with the needful funds for this work when it clearly understands the need and the desirable method of attack, and, therefore, I am not without hope that this statement of the present needs of the Department of Education will define the situation and lead to some measures that will increase the efficiency of our work.

Respectfully submitted,

CHARLES DAVIDSON,
Professor of Education.

REPORT OF THE DEPARTMENT OF PHILOSOPHY

To the President of the University:

The report of this department submitted two years ago, when I had just taken charge, consisted solely of plans for future work. Those plans have now been put into execution, but have been changed and developed as I have become familiar with the needs of the institution. During the first year a great part of the instruction was given in elastic courses which were modified to fit the needs of the students entering them, and in this way the desires and needs of our students were gradually discovered and provided for. There was then carefully worked out a curriculum in philosophy which is fully announced for the first time in the catalog of 1910-1911, and which is now expected to be somewhat permanent.

The students taking work in the department may be classed in three groups, as follows: (1) Students taking their major work in philosophy. Since philosophy is a subject in which our immediate graduates cannot expect to work for a livelihood, the number of students majoring in this subject must always be small; the course in philosophy must be chiefly for the benefit of the following two groups: (2) Students specializing in educational or sociological subjects, with which psychology and philosophy are so intimately related as to be more or less definitely required: (3) Students who elect philosophy as an essential part of a general education. The various colleges and schools of the University are represented by student registrations in philosophy in approximately the following numbers: College of Arts and Sciences, 33; College of Technology, 22; College of Agriculture, 8; College of Pharmacy, 1; Law School, 1; Graduate School, 1. The total registration in the Department of Philosophy, which was small during my first year, as it is liable to be during the first year of a new teacher, has increased satisfactorily until it is now between 65 and 70.

The greatest need of the department is now, as it was at the time of the last report, the need of books. In spite of the addition of a small number of books each year, the need is practically as great now as it was then. The interests of the Department of Philosophy would be best served by an increase in the library appropriation as a whole. If such an increase is not to be had, I recommend a special appropriation of two hundred dollars for the purchase of a considerable number of books and a small number of sets of periodicals on philosophy and psychology.

Respectfully submitted,

WALLACE CRAIG,

Professor of Philosophy.

REPORT OF THE DEPARTMENT OF PHYSICS

To the President of the University:

During the past two years few changes have been made in the courses of study offered in this department. The course in least squares has become a required course for students in Civil Engineering and is pretty generally elected by advanced students in mathematics and physics. Professor Woodman is offering a course in the theory of electricity which is proving attractive to a number of students in Electrical Engineering and others. During the spring semester of 1911, there will be a course of two hours a week in meteorology, and a course of two hours in mathematical physics. The course in meteorology is designed to supplement the non-mathematical course given in the fall and the general laboratory course given in the spring so that these three courses will form a desirable year's work for non-engineering students. Although the course in meteorology is scheduled for alternate years, it may be offered yearly if thought desirable.

With the coming of Professor Woodman from Columbia University, from which institution he has recently taken his doctor's degree, I have been able to put the work of my department on a more systematic basis. Professor Woodman has charge of all the laboratory courses except the course in optics and the special courses for advanced students. He is assisted by two instructors,—last year Messrs. Scott and Drew, and this year Messrs. Drew and Royal, and one student assistant, who have charge of sections of the work. The method is proving to be a very satisfactory one.

While the number of students registered in the department is quite large, the number of students taking physics as their major subject is very small. On the other hand, I believe there is no subject in the University, with the possible exception of agriculture, for which there are so many calls for teachers as in the case of physics. Each year I could fill a number of first class positions in physics, both collegiate and preparatory, if I had the students who were properly trained for them. I note with satisfaction the fact that the courses in this department appeal strongly to instructors in the University; fourteen courses in this department have been taken by members of the faculty during the last two years.

From the point of view of material equipment, the Department of Physics is practically at a standstill, and appropriations allowed this department are barely sufficient to keep the apparatus from deteriorating. I request that more generous provision be made in the future

so that we shall be able to supply our students with modern apparatus such as they should be entitled to work with. While the income from student funds, etc., ought, in my judgment, to be used for equipping the department for the best good of the students who pay these fees, it hardly seems proper to expect the students to buy the apparatus used in this department. This is practically what has been done in recent years.

Recent reports from the President of the University have called attention to the pressing need of new quarters for the Department of Physics. Wingate Hall was erected as an engineering building, and in this building the Department of Physics was given temporary quarters. Now the number of students is so large that either the Department of Physics or the Department of Civil Engineering would completely fill the building if occupied alone. In addition, the departments of Mechanics and Latin have quarters in this building. There is little opportunity afforded students in physics to do work of such a character as will impress them with the accuracy of physical measurements, and much of the value of these measurements is necessarily lost. The department has accumulated a collection of apparatus designed for the use of students which would make a very effective outfit, if it could be properly housed. The erection of a building for the Department of Physics would relieve the crowded condition of affairs to a greater extent than that of any other building which might be erected on the campus. This is due, not only to the fact that the Department of Physics is inadequately provided for, but also to the immediate needs of the Department of Civil Engineering. **These two departments would** then be provided for for many years to come. The satisfactory completion of the Agricultural building has suggested the possibility of designing the next building on our campus for the use of two departments, and while, in many respects, it is more desirable to have a building for each department, considerations of economy might warrant the favorable consideration of this proposition.

Respectfully submitted,

JAMES S. STEVENS,

Professor of Physics.

REPORT OF THE DEPARTMENT OF BIOLOGY

To the President of the University:

Since, in past years, the majority of the students in the department have taken enough courses to give them two full credits, a number of short courses have been combined into a continuous course that requires three recitations and two laboratory periods each week throughout the year. This arrangement has made it possible to avoid much repetition that was a necessary part of the other system, and to co-ordinate the work in a much more satisfactory manner. Except for this change the instruction given in the department has not been greatly modified since the last report.

There has been a decided increase in the number of students working in the department, so the accommodation limit, without further division of classes, has been reached. The recitation room is too small to seat the larger classes, so it is necessary to repeat lectures to divisions. As the divisions are too large for satisfactory quizzing, little is gained by the repetition. More satisfactory results could doubtless be obtained by lecturing to the class as a whole and having small groups for quizzing on other days.

The addition of a combined office and research laboratory has added much to the convenience of the department by relieving the crowded condition and giving better opportunities for the preparation of materials for laboratory study, and for consulting with students.

Such new apparatus has been purchased as has been necessary to supply the larger number of students. The most valuable additions are ten compound microscopes, eighteen dissecting microscopes and a number of sets of dissecting instruments.

There is only one small recitation room for the department, so laboratories have been used for recitation purposes when available, although they are poorly arranged for the purpose. The laboratories are crowded and used by so many classes that experimental work that must stand from one day to another is interfered with.

If the registration in the department increases, so that classes have to be further divided, additional instructors will be required. Entomology is such a special and important branch that a trained entomologist is needed. The economic importance of insects demands a knowledge that will lead to their better control and the University should provide a specialist to give the required training.

Besides the apparatus needed each year to supply the greater number of students, special apparatus for instruction in both animal and plant physiology should be provided. While much can be done with simple apparatus in demonstrating the functions of living things, with the present equipment the limit is reached long before it should be.

Respectfully submitted,

GILMAN A. DREW,

Professor of Biology.

REPORT OF THE MUSEUM OF NATURAL HISTORY

To the President of the University:

The rearrangement of the Museum has gone steadily forward and much new material has been added during the past two years. The taxidermist, beside preparing many birds and small mammals for exhibition, has completed a large exhibition case of deer, which is now the largest and most conspicuous case in the Museum. There have also been put on exhibition a splendid specimen of the short-legged deer, mostly white but with patches of the usual color, that is occasionally found in the State, a typical spotted fawn, a fawn that is colored and shaped much like the short-legged white deer referred to, a number of deer heads showing different forms of antlers, and a group of foxes. Skins have been procured and are ready for mounting, when space is available for their display, of a bull and cow moose, the latter donated to the Museum by the Fish and Game Commissioners of the State, raccoons, foxes and other small local mammals.

Many specimens of American conifers have been put on exhibition in display jars, the collection of woods of native Maine trees have been cut, polished and put in cases, and many other important specimens have been added.

A number of new rocks and minerals have been donated and gifts of others are certain when there is room to exhibit them.

Much interest is manifested in the Museum by the general public as well as by the students. The daily number of visitors is very considerable and the Museum is sometimes crowded. With well arranged and satisfactorily labeled specimens a museum offers good educational advantages for the visiting citizens as well as for the students.

Very many important specimens are not on exhibition and little more can be done until additional room is provided. Much material is being gathered and stored for future exhibition but the public soon tires of donating specimens that are to be packed away.

Respectfully submitted,

GILMAN A. DREW,

Director of the Museum of Natural History.

REPORT OF THE DEPARTMENT OF CHEMISTRY

To the President of the University:

Since the last printed report, two years ago, the teaching force of the department has undergone a complete change. Professor Aubert, who has been at the head of the department since its organization, resigned in the spring of 1909, to enjoy a well-earned and much-needed rest. Instructors Clayton, Durgin and Seymour, left to engage in work in technical chemistry. In March, of the year just finished, Instructor Washburn also accepted a commercial position. The vacancies thus made were filled as follows: Professor, Ralph H. McKee, Associate Professor, Charles W. Easley, Instructors, B. E. Kraybill, I. M. Burghart and B. F. Brann. In the late summer Mr. Kraybill resigned to accept a commercial position. His place has been filled for 1910-1911 by the appointment of Mr. A. M. Buswell as Instructor in Industrial Chemistry.

The department needs much in the way of apparatus and chemicals to enable the teaching to be made thoroughly effective, particularly along the lines of physical and organic chemistry. The appropriation made for 1910-1911 for chemistry will supply some of the most crying needs, but it must be followed by similar appropriations.

In the last year a number of changes in the curriculum have been made. The one of most fundamental character is the increase of the first year laboratory work in chemistry from two to four hours of laboratory time a week. This is in line with the universal experience in this and other sciences that mere attendance on a lecture or recitation course does not amount to much; it is only those who spend considerable time in handling the materials and in building up with them who can ever really comprehend the superstructure. It was only because the laboratory space available was insufficient that the change to six hours of laboratory time a week was not attempted, thus conforming with the practice of the best institutions of the country.

The work in agricultural analysis hitherto given by the Department of Chemistry has been transferred to the Department of Biological Chemistry. This has slightly relieved the advanced laboratory for the spring semester.

At present mineralogy is given as a short course in the Department of Chemistry. It would be wise if a Department of Geology were organized and this work transferred to it. Such a department could provide a source in crystallography—a course very much needed by the students whose principal work is chemistry.

The advanced courses have been rearranged so that more organic and physical chemistry, and in particular laboratory work in these more modern divisions of the science, can be given. A course in fuel and gas analysis has been added, primarily for the students in Chemical Engineering and Mechanical Engineering. With additional room available the demands of students for courses in technical chemistry and fuller courses along the line of Chemical Engineering would be provided by the department. These are much needed.

The department is so crowded that Sophomores and Freshmen (30 in 1909-10) are being turned away from the classes in chemistry owing to the fact that every desk is taken and the rooms are so crowded that it is impossible to insert more desks. This need for a building is not new, it has been mentioned in the Reports of the President for the last eight years. Fernald Hall was built to take care of a hundred students—last year, courses in Chemistry and Pharmacy were given in it in one semester to nearly five times this number of students.

The University announces that courses in Chemistry will be given to those students prepared to take the work, but actually a part of these students are refused admission to the classes owing to lack of sufficient laboratory desks. We have utilized all the space available in the basement and in the attic, but still students apply for work in the classes and have to be refused. A new building for Chemistry has been talked of for a long time; it must come quickly.

Respectfully submitted,

RALPH H. McKEE,,

Professor of Chemistry.

REPORT OF THE DEPARTMENT OF PHARMACY

To the President of the University:

Since my last report ten have graduated from this department. The entering class, short course, numbers nine,—making a total of nineteen in the department. Dividing the entering classes for the fifteen years of the existence of this department into five periods of three years each, the entering class averaged 10 per year for the first period; 7 1-3 for the second; 12 1-3 for the third; 9 for the fourth; and 12 for the fifth period. As has been pointed out in previous reports, in the fairly steady growth in numbers of the University this department has not shared. Some of the presumed causes of this failure to expand have been previously stated and need not be repeated; but so far as these causes are due to our failure to provide a sufficient equipment, or to give efficient and correlated instruction adapted to the technical needs of pharmacy students, they should be remedied. Frankly we must acknowledge shortcomings in both of these respects; in the first, because of the poverty of our resources, which cripples the efficiency of all departments alike; in the second, because in our curriculum subjects other than pharmacy are necessarily (now) taught from a standpoint not pharmaceutical.

To minimize the latter evil an addition to the teaching staff should be made of one of pharmaceutical training. Such single additional instructor would not wholly remove the evil here noted; but if he is given charge of pharmaceutical histology, and if a new—much needed—laboratory course in food and drug examinations is added to his duties, the chief and weightier obstacles to a thorough and practical pharmaceutical training will have been removed. The other laboratory courses are believed to be as complete and practical as at present feasible with the limited time available in the short course.

There have been no new books added to the department during the past two years, and but one minor addition to equipment,—a konseal machine. This was however indispensable, and nothing in our meagre equipment is so much used, except the Linbarger-Joly balance. The latter is in almost constant use, either in this department, or in the Department of Physics to which it is often loaned.

Respectfully submitted,

W. F. JACKMAN,

Professor of Pharmacy.

REPORT OF THE DEPARTMENT OF CIVIL ENGINEERING

To the President of the University:

I herewith submit my biennial report and recommendations for the Department of Civil Engineering.

The work of the department during the past two years has been conducted along the lines and policies referred to in my report of 1908. Three years have intervened since making radical changes in the Civil Engineering curriculum and the results obtained have seemed to indicate the wisdom of these changes. The specialization in railroad or hydraulic engineering, explained in my last report, has proved to be a success, and it has been noticeable that the voluntary division of the students in these subjects has been about the same for each. It is now possible for a student to obtain a continuous course of study in railroad engineering from the second semester of the second year, and in hydraulic engineering from the second semester of the third year.

During the past two years the teaching force of the department has remained very stable, as reference to the catalog will show. It now consists of the head of the department, who teaches structural and hydraulic engineering; the professor of railroad engineering, who teaches this subject; an assistant professor, who teaches hydraulics and structural designing; an instructor, who teaches surveying, and sanitary and highway engineering, and two tutors who assist in the above named subjects. In addition, it is necessary to have several student assistants during the field seasons.

Since my last report Mr. P. L. Bean has been made an assistant professor, and Mr. L. I. Johnstone has resigned. Mr. J. E. Kaulfuss has been appointed to succeed Mr. Johnstone.

During the three years in which Mr. Johnstone was in charge of the courses in surveying he brought them to an excellent standard. With the end in view of continuing this standard an attempt was made to keep him with us, he being offered an assistant professorship. Owing to reasons not connected with the University he was not able to accept. It is earnestly hoped that such promotion may be forthcoming to any man filling this position satisfactorily, for it is evident that a change of men for such a position must interfere with the work, especially if it is necessary to fill the position with a less experienced man.

Much of our work is done at a disadvantage owing to lack of facilities and equipment. One of the great needs of the department is a hydraulic laboratory. The State of Maine is noted for her water power resources, and although much is being done to acquaint the students

with water power development, it is impossible to present some of the subjects in hydraulic engineering as they should be presented, owing to the lack of laboratory facilities. It is surely unfortunate if this State can not afford to appropriate the funds necessary for the installation of a fully equipped power house and laboratory where fundamental principles of hydraulics as well as advanced research may be suitably presented.

The congested condition, spoken of in my last report, of the building in which this department is located has not yet been relieved. It is very necessary that new quarters should be provided for the departments of Physics and Latin, thus allowing the entire building to be devoted to the two departments of Civil Engineering, and Mechanics and Drawing.

The Junior Civil Society has continued to prosper and each year several lectures have been given before the society by men of reputation. The thanks of the society are due these men for giving their time to us, the only expense charged being that actually incurred by travel. These expenses have been met by the students. I would again call attention to the need of a small annual fund for this purpose.

The library is very well supplied with engineering magazines and reports. It is not well equipped with books on engineering subjects. This defect should be remedied.

During the past two years additions in the way of equipment have been made as follows: One Berger transit theodolite, two Gurley transits, two Gurley wye levels, one Johnson movement plane table, one Gurley pentameter, one Gurley large Price meter, and one K. & E. planimeter.

Last year it was decided to impose a field fee to cover breakage and repairs, and also to be used as a fund to cover deterioration of instruments. Students taking field work now pay \$2.50 per man per field course. This allows about one instrument to be purchased yearly.

In closing this report I wish to state that I consider the department to be in excellent condition, and that the courses, with the exceptions noted, compare very favorably with those of other institutions. I also wish to thank the members of the department for their energy and faithfulness.

Respectfully submitted,

H. S. BOARDMAN,
Professor of Civil Engineering.

REPORT OF THE DEPARTMENT OF MECHANICAL, ENGINEERING

To the President of the University:

I have the honor to submit the following report.

The past few years have seen many changes and improvements in the engineering departments and as an accompanying result a considerable increase in the amount of work which must be done by this department. For one who follows the development of the courses at this institution the catalog will show what these changes have been, but one notable instance is the addition of mechanical engineering laboratory work as a requirement for all students in Civil and Electrical, as well as in Mechanical Engineering. This is as it should be, but it has necessitated a class in the laboratory every afternoon throughout the year. This class requires the presence of two instructors for effective work to be done. The laboratory reports from students in this work will average fifty per week. These require about one-half hour each, of the instructor's time, to indicate corrections and recorections.

The conditions of our equipment and its limited amount entail much time from one or two instructors in its preparation for the various laboratory experiments. Such in fact are the demands of this and other work that this department should have an additional instructor and a graduate assistant to make it possible to properly handle the work. Inasmuch as the writer, a few years ago, recommended and caused a decrease in the number of the instructors in the department, when a change in the work made that possible, it seems only just that, now that more help is required, it should be provided, so far as our means will allow. Mr. E. C. Cheswell, who is at present devoting one-half of his time to this work, is wanted by the Electrical Department, and has not been considered in the above, it being assumed that he will devote his entire time to the Electrical Department when proper help is obtained for the mechanical laboratory.

Mr. Cheswell is a valuable man in the work he is doing for the two departments and it is only his unstinted activity that has enabled us to keep our laboratory courses going the past year.

This department has to contend with an unfortunate arrangement as respects the shop-work instruction because of a division of authority. Both Mr. Carter and Mr. Davee devote only that time which is scheduled for classes to instruction and its allied matters, the balance of their time being given to the oversight of repairs and other work in connection with power, heat, light and water installations. Both men are effective instructors, but it is likely they could do better in either line of

work if there were not this division between two lines. I would suggest that an arrangement be made by which these men could devote all their time to the shopwork instruction and to constructing and repairing, under the direction of this department, apparatus for any of the various laboratories.

One of the great difficulties which a college like ours must contend with is the large number of varied technical subjects which should be taught by the small number of instructors available to teach them. So great is this difficulty that many of the more professional subjects which should be presented in the senior year must of necessity be left out.

To remedy this condition a small sum of money, say about what would be paid an instructor or assistant professor, should be devoted annually to engaging men of professional standing to come here and deliver a short series of lectures upon professional topics to the seniors of the engineering departments. Such a system is used to some extent in our College of Law. In hardly any other way could a greater benefit be derived for so small a cost. Such an arrangement would strengthen the reputation of our school and that of its graduates.

There should be provided a separate workshop for the carpenters, plumbers and others having work to do upon the campus so as to take such work and its accompanying annoyance and interference from the room devoted to class instruction.

So far as equipment is concerned, the needs of the department are many. While it is realized that the likelihood of attaining even a majority of our requirements is remote, it is nevertheless thought wise to state them, and to work consistently toward the development they represent.

A torsion testing machine has already been approved and once appropriated for, but owing to shortage of funds the appropriation was not forthcoming when the machine should have been ordered. This was to cost about \$800. It should be purchased. About \$300 should be expended for tools to equip our existing testing machines. We will then be fairly well fitted out for testing materials of construction.

No attempt is being made at present to develop a hydraulic laboratory. We now deal with the mere rudiments of hydraulic measurements, such as the use of weir, orifice and nozzle, and meter calibration. More should be done along this line when the other laboratory work is in better condition.

A steam engineering laboratory is more needed than anything else in the laboratory line. Owing to the abandonment of the "old power station" for the new heating plant we have come very near to having no laboratory at all in which to deal with one of our most important branches. It has even been very difficult to protect the valuable apparatus left in the "old power station" from rapid deterioration. This apparatus has now been put into fair condition and closed up, but, as we need this apparatus for demonstration and laboratory practice work, steps should at once be taken to provide a suitable housing for the steam and gas engines and boilers which are there, so as to make these

pieces of apparatus available the year around and to permit of an economic and efficient development of the power side of laboratory work. Lord Hall is not a suitable place for the installation of heavy engines and allied machinery and I think we should look forward to the time when it may be devoted wholly to drawing rooms, lecture rooms, offices and shops.

In the spring of 1910 I submitted to President Fellows sketches for a building suitable for a laboratory and for housing the apparatus now in the old plant. This was a neat and inexpensive plan and it is understood that it had the approval of those who saw it. It consisted essentially of a one-story, brick building, with side galleries and a saw-tooth roof, so-called, which would permit of indefinite extension of the building in any direction without interfering with the lighting. The sketch is again submitted, herewith, and its adoption cannot be too strongly urged. If funds are not otherwise available our next legislature should be asked to provide this building. It should be remembered that the apparatus which this building is to protect is worth several thousand dollars and that it cannot be cheaply or well cared for in the present worn-out frame shed, nor can it be used for laboratory work when most needed, in the winter. Furthermore, other steam apparatus cannot be installed until we have a suitable place, such as this building, for it.

About \$1,000 is needed for small measuring apparatus such as pyrometers, calorimeters, etc. The appropriation of \$400 for the current year is being used for measuring tanks for water, platform scales, a resistance pyrometer, pressure gages, a projecting lantern, and such apparatus as will enable our present equipment to be used to the limit of its usefulness. Two of the items are to be secured by cooperation with the Departments of Physics and of Electrical Engineering.

We have gradually developed the wood and iron working shops to a fair degree of completeness, but some of the old tools are in such condition that they must soon be replaced. In the machine shop we need a new shaper, a universal milling machine, universal grinder and a new planer. We can trade old tools toward these to good advantage. Aside from these tools mentioned being practically worn out, they are no longer representative of the best practice. We are this year getting a new drill grinder, center grinder, and water emery wheel which have been so long wanted.

Up to the present we have made little attempt to develop our foundry. We have an old cupola which no longer serves to melt iron owing to various difficulties due to age. It is now time that we fitted up this room in order that the foundry work, which is required of all mechanical and electrical engineers, may be representative of good practice. It is hoped that we may soon be able to make our own castings for shop work. A new cupola, core oven, pressure blower, and moulding benches will be needed for this part of our work.

All of these branches of our work are worthy of all our care and attention and it is desired that the trustees will adopt a definite plan of development which will allow us to progress at least a certain amount each year.

To sum up, this department should be given an additional instructor and a graduate assistant for the laboratory; a small building, such as is shown in the accompanying sketch, to form with the apparatus now in the "old power plant" the nucleus of a steam laboratory; an appropriation of about \$1,000 per year for the next two or three years for apparatus needed for the development of the laboratory and the shops; and to have repair work so rearranged that class-rooms will not need to be used by repair men and helpers, and that shop instructors will not be responsible for outside repairs.

Respectfully submitted,

A. C. JEWETT,
Professor of Mechanical Engineering.

REPORT OF DEPARTMENT OF ELECTRICAL ENGINEERING

To the President of the University:

Much of the equipment asked for in the last report of the Electrical Department is still urgently needed. What funds were received during the past two years have been spent in putting the laboratory equipment in a condition for more efficient work, and for a minimum cost for future maintenance, a small sum going to the purchase of instruments that were necessary to carry on a higher grade of work and for a larger number of students. These changes in the laboratory, which have proved to be of great value, and the introduction of a University of Maine laboratory manual that fits the needs of the student in a very efficient manner, have been possible only on account of the new ideas, energy, and ability of the assistants in the department.

At present, several new instruments are wanted at a cost of about \$750, a variable speed motor, \$350, an alternating current series motor, \$225, and for building special apparatus for testing purposes as well as material to carry on thesis work of a higher order, \$300 per year, at least, making a total of \$1,925 for the ensuing two years. This does not include anything elaborate, but plain working capital to keep our material equipment within sight of the ability of our students and the energy of the instructors of the department. More laboratory room, a large lecture room with demonstration equipment, and standardization instruments and room for the same, that go as a matter of course with the Electrical Engineering department in other institutions, appear to us as the cool summer sea-breezes to the poor of our great cities, a long distance away.

The department has had an assistant professor in the past: but, although one of the two largest departments in the University in the number of graduates each year, we have not an assistant or an associate professor at the present time; the force consisting of three instructors in all, one-half of the time of one belonging to the Mechanical Engineering Department, whereas similar departments in other institutions, with the same number of students as our own, have from three to eight instructors. Excellent work is being done by those assisting in the department, the best assistance that the department has had in its history; but some inducement must be offered appropriate to their ability and energy to keep such desirable men, who voluntarily spend all hours of the day or night to maintain the efficiency of the department and for the good of the University.

The department is heartily in sympathy with the plan for better facilities in steam engineering equipment, and a special building with a fully equipped thermodynamic laboratory; as an electrical engineer, ought to be a mechanical engineer as well, it is very desirable that our equipment along this line of work be given the consideration that other technical institutions have given to it the past few years, with the resulting elaborately equipped laboratories and new buildings.

The nature of the work required of electrical engineering students after graduation has changed greatly in the past five or six years; the field at the top, that of the consulting engineer, will always be open for the best fitted for it, but with the standardization of electrical equipment, and power plants, a smaller proportion of the technical graduates is required for the consulting work; the increase in the manufacture and use of electrical machinery and apparatus has created a demand for technically trained men as sales engineers, managers and assistant managers of district offices, and men of executive ability for the individual department of the large manufacturing plants. Good men in this field of work are urgently needed, and well paid; and in the case of our own alumni, the demand for the technical business man has changed in the past six years from 16 to 36 per cent, as determined by the proportion of the electrical engineering graduates going into such work. A straight technical and mathematical course is not the best training possible for the technical business man: one who is not an excellent mathematician may make a good sales engineer, or have good executive ability, and such an one should have more of an economic training; it is planned to divide the electrical engineering course into two sections in order to meet this demand, one for the technical expert, and the other for the technical business man; the latter to have such a training that it will not cheapen the degree in electrical engineering, and the requirements for the technical expert can be increased in quality without shutting out some very desirable men from taking the Electrical Engineering curriculum. Such a change can be brought about with a little additional assistance in the department, and one of the present assistants, Mr. A. T. Childs, on account of his general ability and special fitness for the work, is admirably suited to carry the responsibility of one of these sections.

Respectfully submitted,

W. K. GANONG,

Professor of Electrical Engineering.

REPORT OF THE DEPARTMENT OF MECHANICS AND DRAWING

To the President of the University:

No change of courses has been made in the department during the last two years but the methods of conducting the work in drawing have been systematized and materially improved during that time under the direct supervision of Mr. A. L. Grover, who was promoted from instructor to assistant professor at the beginning of last year. At the same time Mr. W. E. Farnham was promoted from tutor to instructor.

The drawing room has recently been supplied with a complete outfit of drawing boards and tee squares and a filing case for drawings has been provided, but there is yet a very urgent need for an adequate system of artificial lighting.

Instruction in drawing is given to about 200 students, working in five divisions,—a total of thirty hours of instruction per week for the department,—and each division is large enough to require the constant attention of two instructors. I make this statement to emphasize the need for an additional instructor or tutor to do the work now done by student assistants.

On account of the unusually large number of junior engineers last year, the course in technical mechanics had to be given to four divisions instead of three, as usual, necessitating the omission of the course in advanced theoretical mechanics, which is being given this year, however, to a class of twelve seniors and graduate students.

Respectfully submitted,

CHARLES P. WESTON,
Professor of Mechanics and Drawing.

REPORT OF THE DEPARTMENT OF PHYSICAL CULTURE AND ATHLETICS

To the President of the University:

As Director of Physical Culture and Athletics, I have the honor to submit the following report from 1908 to 1910:

There have registered for required work in physical training each year 150 to 170 students; 50 to 100 have used the gymnasium yearly for voluntary exercise.

The gymnasium at the present time is in fair condition, with the exception of the ventilating apparatus, which I understand will be repaired.

I would estimate the cost of equipment and repairs yearly at \$250.

Respectfully submitted,

EDGAR R. WINGARD,

Director of Physical Culture and Athletics.

REPORT OF THE DEPARTMENT OF MILITARY SCIENCE AND TACTICS

To the President of the University:

This department was under the direction of Captain Walter S. Brown, 25th Infantry U. S. Army, as Professor of Military Science and Tactics during the year 1908-1909. The course outlined in the catalog, of five hours per week, required of freshmen only, was continued during that year.

To more fully comply with the requirements of the War Department, the course was changed to three hours per week, and sophomores were required to take the course. As 1909-10 was the first year after the change, only freshmen (required) and upper classmen, by election, took the course, three hours per week during this year, the Cadet Battalion consisting of four seniors, one junior, fourteen sophomores, and one hundred and eighteen freshmen.

Captain Brown was relieved from duty at the University in June, 1909, and the undersigned was detailed for duty here, by orders from the War Department dated September 25th, 1909, but he was not retired from duty in Idaho until October 10th and joined here October 15th.

The students had been organized into three companies by Mr. G. E. Springer, a student of the senior class, before my arrival, and the officers selected and assigned, but no arms or equipments had been issued.

I approved the organization and appointed him Major of the Battalion and issued arms and equipments, but it was not until after November 1st that this was accomplished and regular instruction begun. I wish here to express my appreciation of Mr. Springer's efficient work in organization and preliminary drill.

As the new requirements would necessarily about double the number of students to be instructed, application was made for additional arms and equipments to make enough to equip three hundred men, also for two gallery practice rifles. These have been received since the close of the scholastic year.

Instruction was handicapped, to a considerable extent, for want of room for so many students at one time, and this will be much more the case another year, with two classes to handle. The drill hall or gymnasium, is only large enough for company movements of one organization at a time, and I was forced to divide the hour between two companies, allowing each one half time for manual of arms, etc., and the other half for company movements while the third company had gallery practice in the baseball cage with target rifles owned by students. I could be with only one organization at a time and the

discipline and instruction of the other two had to be intrusted to students of the upper classes who had elected Military Science and had some knowledge of military drill.

An assistant instructor is badly needed. By the Act of Congress of April 21st, 1904, the detail of a non-commissioned officer for duty at educational institutions is authorized, "provided that no detail shall be made unless it shall pay the cost of commutation of quarters of the retired non-commissioned officer, and the extra-duty pay to which they may be entitled by law by reason of the performance of special duty."

Such a non-commissioned officer could be had for about forty dollars per month, and in addition to his duties as an instructor, could act as ordnance and quartermaster sergeant, and care for the arms, and equipment, and keep it in proper repair. Such a detail is very much needed.

The store room for the Military Department is inadequate, it will hardly hold the military stores when packed in boxes, and with the new arms and equipments to come, additional storage must be provided. When anything is packed in the store room, it is impossible, even now, to enter it and get at any of the stores without removing the property, thus preventing examination or repair work during the summer recess.

A new drill hall at least (65) sixty-five feet by (200) two hundred feet should be provided, with an office, or recitation room, and a store room with arm racks and lockers in the building. This would allow of two companies drilling at once, and it could probably be arranged to give the Military Department two hours instead of one, so the professor could divide the Battalion and properly supervise all the work. Under these conditions a full field equipment could be issued to the Cadets and the Battalion paraded ready for active service. This done, I see no reason why the Battalion should not form part of the National Guard, and receive its uniforms from the Adjutant General of the State, at first cost to the United States, as is the case at present with the students of Norwich University, Vermont.

I am, sir,

Very respectfully,

CHARLES A. VARNUM,

Lieut. Col. U. S. Army, Professor of Military Science and Tactics.

REPORT OF THE DEPARTMENT OF HORTICULTURE

To the President of the University:

In accordance with your request I have the honor to submit the following report of the Horticultural Department for the two years ending July 1st, 1910.

During this time the department has made a substantial growth. The increase in the number of students to whom instruction has been given has paralleled the increase in the number of agricultural students. There has been a considerable re-arrangement of the curriculum so that now a larger number of students get the fundamental training in the more important branches of Horticulture earlier in their course than formerly. The time devoted to one subject, plant breeding, has been doubled so that students may now receive a much more satisfactory introduction to it. Another elective subject, systematic pomology, has been added to the course of study. This is something which has been badly needed. Heretofore students have had no opportunity to study the fruits and fruit industry of the country as a whole, together with this State's relation to them.

A limited amount of new equipment has been obtained. Two years ago the department did not possess a single lantern slide or photograph for class use. Beginnings of a series of lantern slides illustrative of landscape gardening and orchard practices have been made. A large number of small reprints of famous landscape paintings have been secured, together with a good many photographs. Minor articles of laboratory, garden, and orchard equipment, such as dissecting microscopes, pruning shears, saws, and grafting knives, have been obtained as needed.

A small apple and plum orchard of about 250 trees, has been planted on suitable soil on the Stillwater farm. These trees will soon afford excellent laboratory facilities for orchard work of various kinds. Incidentally, they should be a source of income. Small-fruit plantations that already afford laboratory facilities and a small income have been established on the home farm.

During the two years over fifty fruit growers' meetings have been attended and addresses given. The value of this kind of work cannot be measured exactly but without question much has come from keeping the fruit growers, florists, and gardeners of the State in touch with what is being done along these lines at the University and elsewhere, and in turn, with acquainting students at the University with the status of these industries through the State. The first short course in fruit

growing, to be given by the University, was held in February, 1910. It was a success in every way. Twenty-two, the largest number to register for any short course offered by the University, were registered for it. Quite a large part of this number are among the largest fruit growers of the State.

Within the period covered by this report the University greenhouses have been turned over to the Department of Horticulture for instructional purposes. While this has greatly facilitated its work along this line, the total amount of income derived from them has remained materially the same.

No small amount of this growth has been possible only because of the fact that during the past year the department has been given an assistant and I wish here to express my appreciation of the high class of work done by Mr. W. R. Palmer, Instructor in Horticulture.

While the department has appreciably grown during the past two years, only a beginning has been made. Much must be done if it is to meet the increasing demands that are being made upon it. Funds should be provided for greatly increasing the collections of lantern slides and photographs. The increased number of students makes necessary the purchase of many minor articles of orchard and garden equipment, such as planting, pruning, grafting, and spraying accessories. For the same reason the present large and small fruit plantations should be increased. It is very desirable that an outdoor collection of the different wild species and sub-species of fruit trees and shrubs, from which cultivated varieties adapted to this climate have sprung, should be started.

Special mention should again be made of the University greenhouse. This is a house of old style wooden construction, and in such a bad state of repair that it is impossible to grow many of the regular greenhouse crops in it. It is too far out of date and too nearly worn out to be repaired. It should be replaced with a modern iron frame structure to cost in the neighborhood of six thousand dollars. It would be desirable to build in connection with it some kind of a bulb storage room. This need not require more than two hundred dollars additional.

It is only through a gradual increase in the number of small horticultural tools and accessories, in the size of the orchard, the collections of lantern slides and photographs, by erecting a new range of greenhouses, and starting an outdoor collection of our more important horticultural species of plants, that the department will be able to keep pace with the increasing numbers of students and teach modern horticultural practices in an efficient manner.

Respectfully submitted,

V. P. GARDNER,

Professor of Horticulture.

REPORT OF THE DEPARTMENT OF AGRONOMY.

To the President of the University:

In accordance with your request, I present herewith the report of the Department of Agronomy.

On January 1st, 1910, I took charge of this department and found it organized as follows: The Agronomy Department consisted of the farm crops division, soils division, and farm mechanics division, and also included the management of the university farms. The work of the farm crops division has proceeded along the lines already established by my predecessor with some additions such as courses in crop breeding, marketing, and judging, and also a research course. Laboratory material was obtained from crops grown upon the university farms and from crops raised upon representative farms of the State. In all, a comprehensive course has been given in the production, marketing, and judging of the small grains, corn, potatoes, forage crops, and root crops. It is our aim also to present a study of the weeds common to the farms of the State with practice in their identification, and instruction as to the methods of eradicating them. In the study of methods of breeding for the improvement of corn, small grains, and potatoes, the systems employed by representative American and European stations were carefully studied.

The soils work comprises a study of the representative types of soil and methods of their identification; a study of the principles of physics underlying the methods of tillage of the soil, and a careful study of the maintenance of the fertility of Maine soils. In this course was included a comprehensive course in fertilizer manufacture; the relative cost of home mixed fertilizers vs. branded fertilizers was considered, and careful instruction in the home mixing of fertilizers was given. The general principles of fertility maintenance by crop rotation have formed a large part of this course.

In farm mechanics the principles underlying draft and the strength of building materials were carefully studied. This was followed by a careful study of the implements of soil tillage including plows and cultivators, also farm power including horse power, wind power, water power, gasoline power, steam, and electricity as applied to farm operations. Harvesting, threshing, and grading machinery were given very careful consideration also. To assist the department in the work carried on in the division of farm mechanics machinery has been very kindly loaned by the implement firms as per last year's report. The machinery is gone over annually and is replaced by up-to-date types of the several machines.

The teaching force of the department was seriously handicapped by my assistant—Professor M. E. Sherwin—leaving to take the position of Associate Professor of Soils at the North Carolina Agricultural College.

In reference to laboratory equipment, the department is fairly equipped. The enrollment of students has outgrown both the capacity of the soils and farm crops laboratories. We would like to ask for special consideration as to the accommodations in the soils laboratory.

During the year the department has been called upon frequently for extension work, and has gladly rendered such assistance as was possible. Such work is not only beneficial to the people of the State, but is exceedingly valuable to the corps of the department in that they get into personal touch with the problems of the State and are able to speak with greater certainty as to the application of instruction in crop growth and soil tillage suitable to different parts of the State. It is evident, however, that the demand for such work has far outgrown the supply, and that the time has arrived when another assistant could be used to exceedingly good advantage in the department. During the summer of 1910 the Agronomy Department took part in the train, run by the Maine Central Railway under the auspices of the University of Maine throughout several parts of the State. Three speakers from the department took part in the demonstration programs and half of one car was fitted up with demonstrations in crops and soils, and one and a half flat cars were equipped with modern farming machinery, the operation of which was explained by a demonstrator in charge.

The management of the university farms comes under the direction of the Department of Agronomy. When the present head of the Agronomy Department took charge, no fall plowing had been done upon either of the farms, which fast left the farm operations for this year seriously handicapped. However, considerable land was plowed as early as possible during the spring and the usual types of crops, including oats, corn, potatoes, and roots were planted. Although the season was very backward and the seeding was handicapped by the late preparation of the soil, yet it was possible for us to harvest nearly 150 tons of hay, about 900 bushels of potatoes, about 500 bushels of oats, about 300 bushels of roots, and about 100 tons of silage from the crops grown.

At the Stillwater farm a system of three years rotation has been established, consisting of the following units: 1st year:—a grain crop seeded to clover and timothy; 2nd year:—clover and timothy with the second crop plowed under in the fall; 3rd year:—a hoed crop such as corn, potatoes, or roots. The application of fertilizer is made as follows: lime is applied when the ground is seeded to oats at the rate of about 800 to 1000 pounds per acre, commercial fertilizer is applied to the potatoes at the time of planting, and barn dressing is applied to the land used for corn. It is our ambition and expectation to maintain and build up the fertility of the soil by this system of operation. During the summer considerable work has been done upon the Stillwater farm and as soon as the crops were harvested the fall plow-

ing was undertaken. At present all of the land we desire to plow for next year's crops has been fall plowed and is in good shape. The Stillwater farm is in need of considerable drainage as is also the home farm.

The Department of Agronomy wishes to thank the Board of Trustees, through the President, for the hearty support which it has enjoyed throughout the past year. It urges that attention be given to the scarcity of laboratory space, and to the need of new horse barns wherein to stable the horses of the farm. The fact that the great call for extension assistance has far exceeded the possibility of supply will, we think, deserve careful consideration, and we urge that more assistance be allotted to the department so that it may make this part of the work more effective to the farmers of the State.

It is the plan of the department, during the coming year, to establish a comprehensive system of demonstration plots. In this system of demonstration plots will be included the growing and comparative testing of varieties of oats, wheat, barley, corn, rye, potatoes, roots, clovers, and grasses, and also comparative tests will be made of the different methods of maintaining soil fertility and of carrying on crop cultivation. A division of this work will illustrate and demonstrate systems of breeding small grains, corn, and potatoes. It is deemed that such work will not only be of great value to the student body in their studies at the University, but will be of great interest and equally great advantage to the visiting public as they come to view their State institution. It is our aim to make this of the utmost value to the State.

Respectfully submitted,

HENRY G. BELL,

Professor of Agronomy and Farm Manager.

SUPPLEMENTAL REPORT ON FARM MANAGEMENT AND AGRICULTURAL ENGINEERING

ORONO, MAINE, November 22, 1910.

To the President of the University:

This work has so recently been organized that it is as yet in its formative period. The advisability of development along some of these lines has been set forth in former reports to the Board of Trustees.

For the study of Farm Management there is need of charts, reference books, and illustrative materials. The work in these courses requires the study of plans of farms, laying out land for crop rotations, the study of different systems of farming, etc. These can best be effected by visiting some farms that would be representative of the different types of farming in the State and some that show the application of the principles of up-to-date scientific farming. This would necessitate the outlay of some money which would be fully repaid through the broadening of the experience and the addition of useful, practical information to the men in the agricultural course.

The work in engineering and farm mechanics is such that the student is instructed in the use of instruments necessary to lay out land, level for grade for roads, ditches and contour; to construct farm buildings, and roads; test the efficiency of machinery, try out draft and grade problems; and become familiar with the late designs of improved machinery that is being placed upon the market. The importance to the young man on the farm of the above and similar information cannot well be over-estimated.

Other institutions have appreciated the helpfulness of a thorough training in the operation of machinery, and are putting forth an effort in this direction. Many machine and agricultural implement companies are willing to place their best machinery at the disposal of the classes at the University. Room for these implements and facilities for operating the machines as laboratory work for the students is inadequate. The time of year that this machinery must necessarily be experimented with makes it almost imperative that comfortable, commodious quarters shall be provided. It is respectfully suggested that one floor and the basement of one of the proposed wings to the present Agricultural Building be set apart and equipped for this purpose.

The expenses attached to this part of the work in laboratory will be small in comparison to the advantages to the student body.

Respectfully submitted,

GEORGE E. SIMMONS,

Assistant Professor of

Farm Management and Agricultural Engineering.

REPORT OF THE DEPARTMENT OF ANIMAL INDUSTRY

To the President of the University:

I have the honor to submit the following report for the Department of Animal Industry.

During the past two years the character of the courses offered has not been changed as they seemed to be well adapted to the needs of the students and on a plane with those offered in similar institutions. Two new courses in cheese making have been added in order to make the dairy work more efficient.

In January of each winter a four weeks' course in dairying combined with general agriculture has been given.

The demand, by the Extension Division, for assistance in giving demonstrations and lectures has been greater than ever before and has required a large amount of time. Assistance has been asked for by dairymen and stock men and has been granted as far as possible, both by special appointments and through correspondence.

Mr. James R. Dice, a graduate of the Michigan Agricultural College, has assisted with the instructional work during the past year, and has proved to be a very efficient instructor.

During the past two years several cows have been sold and have been replaced by younger and more profitable producers that have been raised by the department. One American Cattle Club Jersey has been bought. The herd consists of fifty-two head—thirty-one cows, three herd bulls, ten yearlings, and eight calves. Six breeds and their grades are represented. As a producing herd it has a high average. The increased demand for dairy products has been met by increasing the production rather than by increasing the number of milking cows. With the larger number of students more animals are needed for judging purposes. More milk is needed for the dairy laboratory, and there is a gradually increasing demand for dairy products, the sale of which goes far towards paying the departmental expenses. It is the aim to replace most of the grades with typical pure bred animals. All surplus stock would find a ready sale as the demand for breeding stock now far exceeds the supply. It should be the desire to supply these demands as far as possible in order to assist in building up the stock industry of the State.

The flock of sheep contains fifty pure bred animals, most of them being Horned Dorsets. It is our desire to add some of the other more prominent breeds in order to have them for instructional purposes.

The herd of swine consists of eight pure bred sows, representing three breeds, and two herd boars, besides fattening stock.

Through the courtesy of the manufacturers most of the machinery in the dairy building has been loaned to the department and is frequently changed so that the dairy students have the advantage of the latest improvements.

As yet no work in horse breeding is being conducted by the department. The breeding of draft horses especially should be encouraged as the neglect of this industry is costing the State large sums annually. The College should have some brood mares and a stallion of one of the draft breeds. This would facilitate the work of horse judging by the students and avoid adverse criticism by the horsemen.

The most urgent needs of the department at the present time are a remodeling and enlarging of the stables and barns. It will be impossible to expand under the present conditions. The horse stable, in which the farm horses are kept, is anything but a model. The cattle barns are a source of disappointment to visitors who come here to get ideas in erecting a modern structure. When the cattle are all in the barn the stalls are all full. The barns are not planned for economy of labor, nor are they what would be called sanitary at the present time. The upper barn can be remodeled into a very satisfactory horse stable that would supply sufficient stalls and box stalls for all the work and breeding stock that will be needed. The larger or main barn can be utilized as a storage barn for hay and other feeds, and wings built for the cattle stables. There should be room for eighty head of milch cows, besides the young stock.

Respectfully submitted,

P. A. CAMPBELL,

Professor of Animal Industry.

REPORT OF THE DEPARTMENT OF POULTRY HUSBANDRY

To the President of the University:

I have the honor to submit the following report of the Department of Poultry Husbandry.

The Poultry Department is being gradually developed along lines best suited to the improvement of instructional work. The following breeds and varieties have been added since the last report: Barred Plymouth Rock, Buff Orpington, Partridge Wyandotte, Brown Leghorn, Single Comb Rhode Island Red, Pekin Ducks, and Embden and Toulouse Geese.

Three new colony houses have been built by students; one of them an open front house of the Tolman type is being tried out for the first time this season. The laying house built last fall has greatly facilitated the practical work of instruction. At the present time six of the regular students are feeding pens of birds, studying the different feeds and finding out the actual cost of production. This work is optional with them. A number of students are also taking thesis work in subjects that have to do with practical management of flocks.

A great many inquiries are being received in connection with the short courses. These come both from within and without the State. It appears that with proper advertising of this department many more students would come to the University.

Many of the other universities and colleges offer a three months' course in Poultry Husbandry. It would seem advisable to do the same here as it is impossible to provide any amount of valuable practical work in a three weeks' course. This would be practically impossible at present, however, as I am alone in the instructional work of the department. Such a course combined with the regular teaching work of the department would necessitate between thirty-two and thirty-four hours of actual class room work beside the general supervision of the practical work outside and the handling of the correspondence which has increased greatly in this department within the past year. Further, the increasing demand for extension work throughout the State in the form of attendance at grange meetings, fairs, and poultry shows, beside the work entailed in assisting in the formation of Poultry Producers' Associations in the State of Maine seems to make it imperative that an assistant be appointed in this department. There is also a demand for advanced courses which can only be met in the same way.

The work of the department is also rather seriously handicapped by the lack of a satisfactory feed room. The present building is a

part of the old No. 1 house which belonged to the Experiment Station. It is very inconvenient and infested with rats. We are forced to buy our grain in small quantities weekly. There would be a great saving if we could buy in quantity and store it. It would seem advisable to construct a building twenty-five feet square, which would be rat-proof, and have a cellar underneath for the storage of roots and cabbage. This could be done at a cost of about one thousand dollars. It seems advisable also to either construct a building or to so remodel the present building that it will serve as a machinery room in which to install our bone cutter and clover cutter. We need also a feed crusher to prepare some special feeds that are difficult to procure on the local markets, and also to prepare our own chick feeds and mashes. In such a building some form of power would be necessary, either a small dynamo or a gasolene engine.

Certain equipment, such as models of houses, appliances, charts and plans, is urgently needed for class room purposes. Certain books and periodicals must be added to the poultry section of the library to keep the students in touch with the current topics of the work. A few books for the nucleus of a reference library in the incubator building would be appreciated.

Respectfully submitted,

W. A. BROWN,

Assistant Professor of Poultry Husbandry.

REPORT OF THE DEPARTMENT OF BIOLOGICAL AND AGRICULTURAL CHEMISTRY.

To the President of the University:

The work of this department is of a somewhat diverse character, since it involves the teaching of biological and agricultural chemistry in both laboratory and class-room; general geology; economic geology to students in civil engineering; elementary chemistry to two-year students in agriculture; lectures on the chemistry of feeding to eight-weeks students, and a special course in chemistry to advanced students intending to teach agriculture. It might be supposed that the course in elementary chemistry might be given by the Department of Chemistry, but none of the courses now offered by that department meet the requirements of these students, who need a course that shall be extremely practical, and which shall have from the beginning a distinctly agricultural trend.

The equipment of the bio-chemical laboratory in the new Agricultural Building has made it possible to greatly improve and extend the courses offered. A Sartorius balance, a steam oven, filter pumps, and a Jewell water still, are among the most important additions to the apparatus of this laboratory. Two years ago a course in agricultural quantitative chemical analysis was offered for the first time, and a single student registered for the work. Last year eight students registered for the same course, and the small laboratory was taxed to the utmost. To better provide for this course, condensers have been placed against the wall for Kjeldahl nitrogen determinations and for ether extraction apparatus, and steam cups have been placed in one of the hoods.

The equipment for teaching geology is lacking in some very important particulars. At present it includes a fairly large, but poorly balanced collection of rocks and minerals, a stereopticon, and between 300 and 400 slides. The stereopticon is a recent purchase and is a very satisfactory instrument. But the collections have been accumulating through many years and the results are such as might be expected: they include considerable material originally good, but badly damaged through lack of proper care and storage cases, while they are lacking in some of the more common and important types, many of which could be had by a small and judicious expenditure. The educational series of rocks, presented several years ago by the United States Geological Survey, is a very good and useful one, and is now supplemented by a loan collection which is available for purposes of study. During the past year

the University has received valuable accessions from the United States National Museum, consisting of 150 specimens. The museum cases installed two years ago are dust-proof and are proving satisfactory. More display space will, however, be needed in the immediate future.

Since geology is taught in the new Agricultural Building, while the geological museum is located upon the third floor of Coburn Hall, much time and labor are expended in carrying illustrative material to and from the class-room. To minimize this work as far as possible a duplicate series of specimens for the class-room is being built up. Considerable progress has already been made in this direction, especially with such specimens as illustrate the more common building stones, rock types, rock-forming minerals, and specimens illustrating dynamical and structural geology. A case of thirty-six drawers has recently been placed in the storage room adjoining the recitation room, and the arrangement and storage of these collections is thus greatly facilitated.

The immediate wants for teaching geology are a globe, a few additions to the mineral collections, more stereopticon slides, and several wall maps and charts.

In view of the great importance of geology, it seems eminently desirable that the University should devote more attention to it. Few institutions of the size and standing of the University of Maine are without a full chair of geology. The numerous inquiries received here are sufficient indication of the usefulness of such a department, and of the general expectation that the State University is the one reliable source of information upon such points. The mineral resources of the State are destined to play a very important part in our future. Our granite output will be greatly increased. We have valuable deposits of feldspar and more are to be discovered. We need more lime, more gypsum, and there seems no reason why Maine would not produce at least as much cement as she uses, since she has within her limits all the materials required for the manufacture of this increasingly important product. These matters will come within the province of geology and would prove sufficient to engage the entire time of the geologist.

Respectfully submitted,

L. H. MERRILL,

Professor of Biological and Agricultural Chemistry.

REPORT OF THE DEPARTMENT OF BACTERIOLOGY AND VETERINARY SCIENCE.

To the President of the University:

During the early part of last year this Department moved into new quarters in Agricultural Hall. In this building we have a conveniently arranged laboratory devoted exclusively to work in bacteriology and animal histology, a small veterinary laboratory, a recitation room, and an office. We also have the use of the stock judging pavilion for clinics on large animals.

Two more advanced courses in Bacteriology and a course in veterinary materia medica have been introduced. Until this year, students majoring in Chemistry have found it difficult to elect work in bacteriology because of conflicts in time schedule. This year a change has been made so that in the future an elementary course in bacteriology will be required work for chemistry students.

According to previous arrangements, all students in Agriculture take courses in veterinary science, and all Pharmacy students and those majoring in Chemistry, and in the four year curriculum in Agriculture take some work in Bacteriology. The principal and most urgent needs of the department are at least six new microscopes, a large incubator, an inspissator for coagulating blood serum, a large autoclave, a refrigerator, a separate model of the horse. This apparatus will cost about \$2200.

Respectfully submitted,

F. L. RUSSELL,

Professor of Bacteriology and Veterinary Science.

REPORT OF THE DEPARTMENT OF FORESTRY

To the President of the University:

It gives me pleasure to present herewith a report on the status of the Forestry Department at the University of Maine.

THE PAST

Eight years ago, when the forestry course was first instituted at the University (thanks to the efforts of a few far-sighted and public-spirited men and women in the State), there were only three other institutions in the United States offering instruction in forestry. Today more than twenty educational institutions offer more or less complete courses in the subject. These figures are given simply to emphasize the fact that in order to keep up with the general growth of the movement, that is to hold a place well up in the front ranks and to maintain the position and prestige which are the natural result of priority in the field, it is necessary to move forward. In other words, the equipment and the funds that were at one time sufficient are no longer adequate for the demands now made upon them, which have been increasing regularly and steadily from year to year. This has been occasioned both by the increased number of students taking this course and also by the more advanced work necessary to prepare these students properly for their future work in their chosen profession.

The objects of this course at the University of Maine are two fold: first to promote forestry in the State, and second to prepare young men for the profession of forestry. The first is accomplished by means of lectures given at granges, at clubs, and at schools, and also by correspondence; the second by means of a well regulated curriculum which provides for a thorough general education as well as a training in the more technical branches of forestry proper. That the first object has been successfully attained is evidenced by the general interest shown by the increased correspondence and by the greater demands for this kind of work. That the second purpose has been accomplished is shown by the fact that during the past year two of the men from the department passed the Civil Service examinations for the position of Forest Assistant, and were appointed to positions in the United States Forest Service at salaries of \$1200 per annum.

This speaks well for the department, and for the training that its students received during the time that Professor Tower was in charge, for it is not usual for men to pass this examination unless they have had either a year or two at some post-graduate forest school, or else

have had some exceptional advantages in the way of practical field work. In this examination, 20% of the total credit is given to "training and experience," and under this heading the school courses and the practical field work that the candidate has had are taken into consideration. This means, of course, that unless the school at which he received his training is a first-class one in the eyes of the Forest Service, he does not get full credit for this part of his examination. This in itself, should be enough to make it clear to everyone that the standard of the school must be maintained.

Besides last year's graduates, there are now five other Maine Forest School men in Government service, and there are a number of others employed throughout the State by lumber and paper companies and in private forestry work.

THE PRESENT

The department is now provided with excellent quarters in Agricultural Hall. In addition to the office of the head of the department, there is a large, well-lighted class room, two drawing rooms, an instrument room, a storage room, and a room in the basement for timber testing which, however, has not yet been equipped with the necessary machinery, owing to lack of funds for the purpose.

All of the equipment in the way of instruments and implements has been furnished by the State and is of the best quality. It is being added to as rapidly as the very limited funds available will permit, and with the growth of the school, this must, of course, be continually increased.

The spirit of co-operation shown by the other departments of the University in which part of the curriculum is given, is admirable. This is particularly true in the biological and in the engineering departments where much of the fundamental work is given to the forestry students to prepare them for the more advanced forestry subjects.

The following students are now taking forestry courses:

Students whose major subject is Forestry.....	31
Seniors	6
Juniors	6
Sophomores	4
Freshmen	15
Special students majoring in Forestry.....	5
Students taking special forestry courses	4
Total	40

This represents just about 5% of the total enrollment at the University, and all these students pay the regular tuition fees to the University, though no instruction in forestry proper has been provided for at the expense of the University. This year, however, a field assistant was provided and paid by the University for assisting in the field work during the fall semester, but this arrangement was only a temporary one.

At present, the total fund available for the work of public instruction in forestry is the appropriation of \$2,500 per annum provided by the State Legislature. Not even the whole of this amount has been available for the work at the University, for a part of it must go for publications and for instruction in the public schools of the State.

There are other departments in the University with no greater number of students, that have funds of three or four times this amount to provide for equipment and instruction in their particular branches. Is it fair to the forestry students that they should have less opportunity for preparing themselves for the work of their chosen profession?

Besides this, there is a striking and lamentable deficiency in the section of the Library devoted to forestry literature.

THE FUTURE

Within the past decade, tremendous strides have been made in the progress of forestry in the United States; and this in turn has placed an increased responsibility on the technically trained men. This will necessitate a better preparation at the forestry schools throughout the country. The standard of the work at the University of Maine has been steadily and materially raised, and as many additional subjects have been added to the curriculum as the existing circumstances would permit, yet our progress is not commensurate with the development of the forestry movement nor with the higher standard of requirements that the work now demands.

More instructors are needed. We should at least have an assistant professor and a field assistant appointed permanently.

In the curriculum itself, more field-work is needed; that is, practical work in the woods under the supervision of competent instructors. To accomplish this, more money is needed for it is impossible for one man to give the whole forestry instruction at the University, attend to outside lectures, make examinations of wood-lots, answer all correspondence, and at the same time conduct a field party in the woods. We must have the practical work in the woods to make the department what it should be, and what all the good friends of forestry in this State would have it, if they could only be made to realize the exact conditions.

An earnest effort will be made to have the State appropriation increased. Can not the University also aid somewhat in increasing the efficiency of a department that represents one-twentieth part of its students?

Besides this, a permanent endowment fund should be started for the maintenance of the Forestry curriculum at the University. Nearly all of the forestry departments at the large universities in other states have large endowments. These are, as a rule, furnished by the lumber interests, corporations, or philanthropic individuals; and there is no good reason why this department should not have at least \$100,000 or more invested as a permanent fund, the interest from which could be used for the proper equipment and maintenance of a strictly first-class forest school such as would worthily represent the Pine Tree State.

There is no State in the Union that offers better natural facilities for the work of such a school: and besides this, the vast amount of land in this State that is, and for the most part always will be true forest land, makes it an economic necessity that steps be taken in time to provide a body of technically trained men who will be able to satisfactorily solve the many problems that arise as to the proper utilization and management of the Maine woods.

The forests of Maine have been the source of many millions of the public and private wealth of the State, and, under proper management, will continue to be for the generations yet to come. Does it not seem fitting that some recognition should be taken of the fact, and some provision made for the future welfare of the forests? And what better means could possibly be found for perpetuating a worthy name than by contributing towards the establishing of a permanent endowment for the conservation of these our greatest, but all too easily destroyed natural resources, "the woods and lakes of Maine."

Respectfully submitted,

JOHN M. BRISCOE,

Professor of Forestry.

REPORT OF THE DEPARTMENT OF DOMESTIC SCIENCE

To the President of the University:

I beg to submit the following report of the Domestic Science Department of the University.

As this department was assigned to the College of Agriculture after the new building was constructed, no special provision was made for its accommodation; therefore, it had to be placed where best it could. The laboratory occupies the room formerly devoted to the agricultural museum which is on the second floor of the Hall. This room does well; but the work is seriously handicapped by its being impossible to have a coal range, as there is no chimney connection; consequently the students of the department have no experimental knowledge in caring for a coal fire. The cooking can be done by using the gas and electrical appliances, but no Domestic Science department is satisfactorily equipped without making it possible for students to have experience in managing a range.

The store-room is an enclosed portion of this same room, without a window; therefore it has no means of proper ventilation, and is far from being a desirable, let alone an ideal place to store provisions.

A third division was made in this same room to accommodate a dining table and the furniture actually necessary to equip a dining room. Screens are used to separate this alcove from the main part. It should be a room with proper decorations and furniture so that the students might gain a right conception of a well-furnished dining room.

The laundry accommodations are the poorest of all. These are in the basement. Parts of three rooms are utilized for this work and it is simply impossible to require a high standard of work with such poor housing.

For a sewing and handwork room we have been privileged to use the faculty room of the building. It is light and airy, and well fitted for the needs and comforts of the students; but it is on the first floor far removed from the other rooms, and its use for this purpose deprives the College of its meeting room. Next year a room should be fully equipped with sewing machines and models.

From the foregoing it may be seen that temporarily the department may do its work, but not in the best form. Ideals are essential to the work of home economics and the highest can be gained only by being ideally situated. Therefore, it is to be urged that at the earliest possible moment the Domestic Science Department be provided with a suite of rooms suitably located and of proper dimensions to meet the requirements of the present day standards of a model home.

There is one other pressing need of the department, and this need should be so felt that it may be met this coming college year—it is that of an assistant. Right now it should be made possible to offer students majoring in this work opportunity of electing courses in simple design and art, millinery, and advanced dressmaking. This cannot be done without assistance.

Another reason for enlarging the teaching force is the great and growing demand of the work in the State called for through the Extension Division. The many calls from the State when accepted necessitate a temporary neglect of the duties to the students in the University, yet much good could be accomplished if proper time could be given to the correspondence courses and to the establishment of Domestic Science clubs among the farmers' wives and daughters. This work could be directed from the University with occasional visits to discuss matters of vital importance to every day living. The other departments of the College of Agriculture are doing all possible to raise the standard of work, suggesting and demonstrating improved methods, indicating means of lessening labor, and it is essential that the work in the home be given an equal opportunity. This can only be done by creating an interest in the process, and the best way to accomplish this end is by personal contact. Hence, it is of vital importance that the Department of Domestic Science be provided with an assistant so as to make possible this advance of work that the people of Maine may keep pace with those of other states in Household Economics as well as in agricultural matters.

Respectfully submitted,

LAURA COMSTOCK,

Assistant Professor of Domestic Science.

REPORT OF THE DIVISION OF AGRICULTURAL EXTENSION

To the President of the University:

The report of this division is largely based on the work of the past year. The change in Supervisors taking place September 13th, 1909, makes this necessary.

On account of the lack of one professor in the department of Agronomy, the Supervisor of the Extension Work devoted one-half time for the first semester of the year 1909-10 to teaching. This interfered somewhat with the work of the whole year. However, from July 1st, 1908, to July 1st, 1910, there were given under the direction of this department 320 lectures with a total attendance of 25,821, and an average attendance of 80. Beginning June 9, an agricultural train—the "Modern Farming Special"—was run on the Maine Central railroad, covering a distance of some 1,200 miles, and reaching 55 towns where members of the agricultural family delivered addresses before more than 13,000 people, besides demonstrating and illustrating practical operations of farm work. While this train was not run under the direction of the department, the work done was strictly extension work.

During the summer of 1910 a part of the time of those doing extension work was devoted to work in the Summer Term of the University.

In the correspondence courses there were 170 enrollments for courses made by 131 different persons, some having enrolled for more than one course. Books and other publications have been sent to these persons. A course in cookery was added this year to the list, making nine courses in all.

The demand for the "Timely Helps for Farmers" was such that the number printed was increased from 2,000 to from 2,500 to 3,000 at various times. The mailing list is growing to such an extent that further increase will soon be a necessity. Several hundred names were received for this list during the trip on the "Farming Special."

The department has in every way possible co-operated with and encouraged all worthy efforts to advance the interests of agriculture. Much of this work was done in conjunction with the State Department of Agriculture and the Granges of the State. A number of high schools and secondary schools were visited and the beginning of elementary agricultural training was encouraged where it seemed advisable.

Special short courses at the University were given at various times throughout the school year. The Supervisor of Extension work gave instruction in each of these short courses: Poultry Keeping, Fruit Growing, Dairying, General Agriculture, and Farmers' Week were

specially presented for the benefit of those who could not be in attendance for long time. Farmers' Week enrollment reached nearly 500. During Farmers' Week, 1910, an exhibit of corn was made and prizes awarded for the best ten ears grown by two classes of growers,—one of men and women, and one of boys and girls.

During the spring of 1910 more than two hundred lots of field corn of two ears each were sent out, the growers of which were expected to fill out a blank describing the method of cultivation of the corn, and to send in ten ears of corn for competition during Farmers' Week, 1910, and also to allow it to be sent to the New England Corn Exposition held at Worcester, Mass., from November 7th to 12th, 1910. The division has lent its support to this enterprise for the encouragement of corn growing in this section. The Supervisor of Extension Work served on the Executive Board of this Exposition Association.

During the year the following subjects were discussed in the "Timely Helps for Farmers," Vol. 3:

Rotation of Crops

Scoring Corn

Potato Improvement

Orchard Pruning

Maine Field Corn Growing

Swine—the Selection and Care of Breeding Stock

Egg Production

Attached to this report and supplemental to it is a statement of the needs of the division set forth by Dr. Leon S. Merrill, the present Director of Agricultural Extension Work.

Respectfully submitted,

GEORGE E. SIMMONS,

Supervisor of Agricultural Extension Work, 1909-10.

SUPPLEMENTAL REPORT OF THE NEWLY APPOINTED DIRECTOR OF AGRICULTURAL EXTENSION WORK

To the President of the University:

In presenting this report, supplemental to that already prepared by Professor George E. Simmons, Supervisor of Agricultural Extension Work for 1909-10, and dealing entirely with the needs of the division and suggestions for future work, I do so with a feeling that perhaps my connection with the University has been too recently made and my insight into the work is yet too limited for me to recommend many changes or additions to the policy hitherto governing the department. Since coming to the University, I have endeavored, however, to get as clear an understanding of the needs of the department as possible.

My understanding of the purpose of the Agricultural Extension Division is a deliberate attempt on the part of the University to reach educationally the agricultural people of the State and to exercise its influence toward the betterment of rural communities.

Although briefly and crudely expressed, if this be anything like a true conception of its function, then an extension division should be well equipped with,—

1st—Instructors;

2nd—Working material such as printed matter, charts, demonstration outfits, etc.;

3rd—Funds with which to meet regular and extraordinary expenses such as may be incurred in the organization of co-operative associations among farmers when such associations have educational features as the basis of their effort; schools or short courses in Agriculture held in different sections of the State, and demonstrations carried on in co-operation with farmers.

I do not think there is danger of over-estimating the importance of demonstration work for it will undoubtedly be carried sometime to the extent of the establishment of demonstration farms.

In view of these conclusions I am recommending:

1st—That the several lines of extension work already undertaken by the department be continued;

2nd—That movable schools or short courses in Agriculture, at least a limited number, be held during the coming year, providing it is found that a desire for such schools upon the part of the farmers exists or can be aroused;

3rd—That the department be equipped with such charts and demonstration outfits as will meet the present requirements;

- 4th—That co-operative demonstration work upon a limited number of farms in the State be undertaken under proper supervision;
- 5th—That the organization of boys' and girls' clubs, farmers' associations of all kinds, which have for their ultimate purpose the dissemination of information and the advancement of agriculture, be encouraged and that such organizations be given such encouragement as will center their inquiries for advice and assistance toward the University and at the same time afford the University an opportunity to properly exercise its function toward the people at large;
- 6th—That sufficient funds be secured or made available for putting into operation the plans and lines of work above outlined.

It may not be amiss to call attention to the fact that more than 30 Agricultural Colleges have now well established Extension Divisions and that during the past year more than \$400,000 has been expended in this particular line of effort. In most, if not all of the states where Extension divisions have been established, they are supported by special appropriations made to the legislatures of those states. This plan has been found necessary in order to prevent Extension work from being seriously crippled at critical periods on account of lack of funds. On the other hand there will be constantly arising new and unlooked for fields for work and if the division has the true extension spirit these fields will be entered and the proper assistance rendered. This would also call for unlooked for expenditures of money. If a special appropriation is to be sought from the State, then that appropriation should not be less than \$5,000, to be used exclusively for Agricultural Extension work in addition to the salary of the Director.

Respectfully submitted,

LEON S. MERRILL,

Director of Agricultural Extension Work.

The Maine Bulletin

Entered at the Orono Post Office as second-class matter

Vol. XIV

September, 1911

No. 1

ANNUAL REPORT

of the

UNIVERSITY OF MAINE

For the Year Ending June 30, 1911



Reports of the Trustees, Treasurer, and President

ORONO, MAINE

ANNUAL REPORT

OF THE

UNIVERSITY OF MAINE

FOR THE YEAR ENDING JUNE 30, 1911

REPORTS OF THE TRUSTEES, TREASURER,
AND PRESIDENT

Printed for the University
SENTINEL PUBLISHING CO.
WATERVILLE, MAINE

1911

REPORT OF THE PRESIDENT OF THE BOARD OF TRUSTEES

To the Honorable Governor and Council of Maine:

The Trustees of the University of Maine respectfully submit their forty-third annual report to you with the reports of the President and Treasurer.

During the past year the University has sustained a great loss, by the resignation of the president of its Board of Trustees, the Honorable Edward B. Winslow, of Portland. This was brought about by his elevation to the position of Executive Counselor. Mr. Winslow was appointed a Trustee in 1898, and was elected President of the board in 1908, which position he held up to the time of his resignation. Mr. Winslow brought to the board the genius of a most successful business man. Living, as he does, in the largest city of the State, he has extended a more intimate knowledge of the affairs of the University in a section of the State where the work of the University was least understood, and his intimate association with many of the most prominent business men in that section of the State has brought to the University many new friends of great strength. Mr. Winslow was not long upon the Board before he became a most enthusiastic supporter in the development of the University along the lines of industrial education which it was possible to undertake with the means available. No man has done more during the time Mr. Winslow has been connected with the University to inspire confidence in the work which it is doing for all classes of our citizens than he; and has led the struggles which have been made before the different legislatures to obtain appropriations, which have made possible the work which the University has done during his term of office. His associates on the Board of Trustees learned of his retirement with deep regret, and out of their very great respect for him and appreciation of what he did for the University, and through it for the State, they have named in his honor the agricultural building, which is the largest and most expensive building on the University grounds,—“Winslow Hall,”—and they will ever remember with the deepest feelings of kindness and appreciation the many years of patient and earnest work which they have enjoyed in behalf of the University as associates of Mr. Winslow.

Mr. Winslow has been succeeded in office by the appointment of the Honorable Oscar R. Wish of Portland, a gentleman who comes to the board with a thorough knowledge of the affairs of the State of Maine, a journalist of wide experience, and one who takes the keenest inter-

est in all our business and governmental affairs. We congratulate the people of our State upon the appointment of so worthy a successor to Mr. Winslow.

During the past year, the term of office of Hon. John A. Roberts, of Norway, has expired and he has been succeeded by the appointment of Freeland Jones, Esq., of Bangor. Mr. Roberts came on the board in 1899 to fill a vacancy caused by the death of Hon. B. F. Briggs of Auburn. Mr. Roberts is a graduate of Bowdoin College, and for many years has been interested in the agriculture of our State; he came on the board especially representing that interest; and in all matters which have pertained to that department Mr. Roberts has given valuable aid and assistance. The Trustees feel that in his retirement the State has lost the services of a most valuable public servant, and we wish to extend to him our appreciation of his long service as our associate in the cause of higher education in this State.

Mr. Jones is a graduate of the University, and comes to the Board familiar with its history from its earliest days, and in full sympathy with all its efforts and undertakings,—and as he is a resident of Bangor, he is favorably located to keep in close touch with all of the working details of the University. We regard his appointment a very fortunate one, and welcome him upon our Board as one whose loyalty to our institution can always be depended upon.

The first president of the Board of Trustees of the State College of Agriculture and Mechanic Arts was the Hon. Hannibal Hamlin, Vice-President, and associate of President Lincoln, in the days of the greatest struggle which the American Union has undergone; and during the struggle, and of no mean importance to the American citizen, was the establishment of the Land Grant Colleges,—where military science and agriculture should be especially taught,—and as an expression of appreciation of the great honor and respect in which we hold the name of Hannibal Hamlin, we have dedicated and named for him the new dormitory completed during the last year, to be forever known as “Hannibal Hamlin Hall.”

This is a small memorial to so great a man as Vice-President Hamlin, but it is with great pleasure that the Board of Trustees use this opportunity to do the little within their power in recognition of the great service of this illustrious son of Maine.

President Robert J. Aleý has now completed his first year of service as President of our University, succeeding Dr. Fellows, who resigned during the year 1910. Dr. Aleý came to us with the strongest recommendations from the leading men in the educational work of our Nation, and we feel that these recommendations have been fully justified by the enthusiasm, good judgment, and ability for work, which Dr. Aleý has brought to us.

There have been many withdrawals from the faculty since the retirement of Dr. Fellows, and changes in a number of the heads of departments. While we have had many regrets from these changes, we feel through the extensive acquaintance of Dr. Aleý among the educators

in this country that we have been able to supply their places with the best men which the means at our command would afford; and all the changes have been made without the slightest interruption, and without a jar, in the work of the University.

The great fire of Bangor, April 30th, 1911, destroyed the building in which the College of Law of the University did its work, on Exchange Street in Bangor,—also, its entire library. The library was fully covered by insurance and has been replaced by one equally good. After several months' effort to obtain rooms which would be suitable for the continuance of this work in the City of Bangor, we were unsuccessful. The trustees next thought of moving the College of Law to the campus of the University at Orono, but upon further investigation, we found that there was no room in which to carry on the work in any of the buildings of the University, and after a more careful and deliberate consideration, and after talking with many of the leading men of the State, especially members of the legal profession, we decided that the best location for the Law School was at Bangor, and we voted to permanently locate it there. Having done this, there seemed to be no other way but to purchase quarters in which the College of Law could be established; and after looking at several pieces of property, more or less adapted to this use, we finally decided to buy the so-called "Isaac Merrill Estate," situated at the corner of Union and Second Streets in the City of Bangor. This is one of the finest pieces of property in that city. The house is of brick and stone, beautifully finished and thoroughly equipped with modern steam, water, and gas apparatus, and the rooms were so large and commodious as to require no changes for our immediate use. The building is so situated upon the lot that another building, if ever needed, can be erected upon the westerly side, giving ample room for the two buildings. The price asked, (\$37,500) seemed extremely low for the property. We learned that it had cost more than double that sum, and it was in most thorough and complete repair in every particular. While we had no available funds at our command, with which to pay for this property, we felt that the exigencies of the case demanded that we make an effort to buy it, and we did so, and arranged for the payments to be made in the future, as we trust and hope the financial affairs of the institution will warrant. The interest on the investment and expense of maintenance will be about the same as the rent which was paid for the quarters previously occupied. We feel that the interest charge for the investment in this property and other fixed charges will not be more than will be easily met by the tuition received, so that no additional burden will fall upon the University on account of this purchase,—and that greater facilities will be offered in every way for the work of the College of Law.

The Trustees have no special recommendations to make to the next Legislature as to the needs or requirements of the University, except that they are many and constantly increasing as is the work and usefulness of the University. We feel that not a dollar in the past has been unwisely spent, and that very large appropriations in the future

may be made for the development and increased usefulness of the University. This is the people's college, sustained by appropriations coming both from the National Congress and the State Legislature, and aided somewhat by private bequests. Its work is well known to the people of the State; and it no longer needs the special efforts of the Trustees to urge upon the Legislature the need of appropriations for its maintenance and development. The citizens as a whole are doing this whenever occasion requires.

The reports of the President and Treasurer are submitted herewith, from which the Legislature and the people of Maine may gain accurate information of the work which is being done. The general health of the student body has been of the very best during the past year and all of the affairs of the University seem to be in an increasingly prosperous condition.

Respectfully submitted,

WILLIAM T. HAINES,

President of the Board of Trustees, University of Maine.

REPORT OF THE TREASURER

To the Trustees of the University of Maine:—

The Treasurer of the University has the honor to present his annual report for the fiscal year ended June 30, 1911.

ASSETS

Trust Fund Investment:

Coburn Trust Fund, Schedule A.....	\$100,000 00	
U. S. Land Scrip Fund, Schedule A.....	118,300 00	
Nehemiah Kittredge Loan Fund, Schedule B..	1,279 96	
Kidder Scholarship Fund, Schedule B.....	750 00	\$220,329 96
<hr/>		
Lands & Buildings, Schedule C.....		499,259 82
Inventories, Schedule D.....		194,668 39
Accounts Receivable, Schedule E.....		20,157 15
General Appropriations, State of Maine, Schedule F		26,203 58
Bills Receivable, Schedule G.....		4,493 01
Cash on hand, June 30, 1911, Schedule H....		1,268 37
		<hr/>
		\$966,380 28

LIABILITIES

Trust Funds:

Coburn Trust Fund	\$100,000 00	
U. S. Land Scrip Fund	118,300 00	
Nehemiah Kittredge Loan Fund.....	1,279 96	
Kidder Scholarship Fund	750 00	\$220,329 96
<hr/>		
Bills Payable, Schedule I.....		54,500 00
Accounts Payable, Schedule J.....		44,406 65
Surplus		647,143 67
		<hr/>
		\$966,380 28

SCHEDULE A—ASSETS

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine dated Feb. 5, 1889, due July 1, 1917, bearing interest at 4% per annum, of the par value of..... \$100,000 00

United States Land Scrip Trust Fund Investment:

Under the provisions of An Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has realized an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1889, due June 1, 1919, bearing interest at 5% per annum, of the par value of..... \$118,300 00

NOTE: All the foregoing described bonds are deposited with the Treasurer of the State of Maine.

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge, late of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same loans are made to needy students in the three upper classes. It is now invested as follows:

Twenty-three promissory notes, signed by present and former students of the University, and aggregating, exclusive of accrued interest	\$1,156 93
On deposit in Bangor Savings Bank, as per Deposit Book No. 45602	123 93
	<hr/>
	\$1,279 96

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, late of Denver, Colorado, Class of 1879, providing for the award of a scholarship to a member of the junior class selected by the President and Faculty, and amounting to	\$750 00
--	----------

This fund is on deposit in the Bangor Savings Bank, as per Deposit Book No. 45603.

SCHEDULE C—ASSETS

Lands and Buildings:

Alumni Hall	\$31,979 80
Wingate Hall	25,143 93

Coburn Hall	28,203 80
Fernald Hall	30,000 00
Lord Hall	38,337 48
Library	50,985 06
Winslow Hall	45,207 85
Stock Judging Pavilion	4,292 46
Oak Hall	40,000 00
Mt. Vernon House	3,500 00
The Commons	6,000 00
Horticultural Building	2,500 00
Observatory	500 00
Heating Plant	55,652 47
Power House	1,000 00
Store House	500 00
Infirmery	700 00
Janitor's House	1,000 00
Theta Epsilon House	3,500 00
Waiting Rooms	276 97
Old Pumping Station	1,200 00
Store House	500 00
Faculty Houses	26,235 65
Locomotive House	200 00
Alumni Field, Structures only	1,000 00
Standpipe and Fixtures	1,000 00
Woodward Farm	3,000 00
Kappa Sigma House	5,400 00
Farm Buildings	25,230 14
Hannibal Hamlin Hall	55,214 21
Campus and Grounds	11,000 00
	<hr/>
	\$499,259 82

SCHEDULE D—ASSETS

Inventories:

Advertising	\$467 16
Biology	8,534 69
Commencement	248 00
Commons	1,470 27
Chemistry	10,773 58
College of Agriculture:	
Bacteriology and Vet. Science	1,687 75
Biology and Agr. Chemistry	614 07
Cows	3,698 00
Domestic Science	431 98
Equipment	8,642 91
Feed	1,033 05
Forestry	1,531 86
Horses	1,450 00

Other Live Stock	847 50
Postage, Printing and Stationery	82 88
Poultry	643 50
Repairs	14 15
Sundry Supplies and Miscellaneous.....	1,312 12
Civil Engineering	7,312 50
Care of Buildings	107 71
Diplomas	165 28
Economics and Sociology	45 00
Electrical Engineering	6,729 00
Furnishings and Fixtures	7,071 14
Greek	1,463 05
Grounds	1,130 85
Hannibal Hamlin Hall	2,798 02
History	111 00
Inn	2,556 66
Insurance	10,396 85
Latin	95 10
Law Library	7,958 16
Law School	276 87
Library	49,428 35
Locker Account	680 00
Mathematical Science	4,339 25
Mechanical Engineering	20,331 40
Mechanics and Drawing	876 10
Military Science	343 25
Mt. Vernon House	1,142 36
Museum	11,152 89
Oak Hall	149 65
Office Supplies and Postage	495 95
Pharmacy	283 12
Philosophy	376 75
Physical Training	1,828 50
Physics	7,069 85
Power, Heat and Light:	
Coal	3,480 00
Supplies	741 91
Repairs to Buildings	248 40
	<hr/>
	\$194,668 39

SCHEDULE E—ASSETS

Accounts Receivable:

This account represents funds due the University as follows:

Students' Accounts	\$11,145 61
Maine Agricultural Experiment Station	4,806 11
Other General Ledger Accounts	4,205 43
	<hr/>
	\$20,157 15

SCHEDULE F—ASSETS

State of Maine, General Appropriation:

Amount due the University under the provisions of Chapter 269 of the Resolves of the State of Maine for the year 1909 and unpaid	\$26,203 58
--	-------------

SCHEDULE G—ASSETS

Bills Receivable:

Represents notes held by the University as follows:

Eighty-one (81) promissory notes signed by present and former students given in settlement of tuition fees, term bills, etc., and aggregating	\$1,993 01
Three promissory notes given by Building Association..	2,500 00
	<hr/>
	\$4,493 01

SCHEDULE H—ASSETS

Cash Balance, June 30, 1911:

On deposit, Merrill Trust Co., Bangor, Me.....	\$5 31
On deposit, Eastern Trust & Banking Co., Old Town, Me.	2 69
Cash at Office (Cash Drawer)	1,260 37
	<hr/>
	\$1,268 37

Cash on hand, June 30, 1910	\$1,389 16
Total Receipts for Year	379,728 94
	<hr/>
	\$381,118 10
Total Disbursements for Year	379,849 73
	<hr/>
	\$1,268 37

SCHEDULE I—LIABILITIES

Bills Payable:

Merrill Trust Co., Bangor, Me., Due July 15, 1911.....	\$37,500 00
Merrill Trust Co., Bangor, Me., Due July 15, 1911.....	5,000 00
Merrill Trust Co., Bangor, Me., Due July 28, 1911.....	5,000 00
Merrill Trust Co., Bangor, Me., Due Aug. 15, 1911.....	7,000 00
	<hr/>
	\$54,500 00

SCHEDULE J—LIABILITIES

Audited Vouchers	\$43,646 63
Athletic Association	760 02
	<hr/>
	\$44,406 65

STATEMENT SHOWING INCOME FROM ALL SOURCES

Income from Students:

Registration fees	\$5,670 00	
Tuition fees, General.....	\$15,790 00	
Tuition fees, Law School.....	5,204 97	20,994 97
Incidental fees	11,152 50	
Special fees for Libraries, Laboratories, Degrees, etc.	986 24	
For Dormitories	1,586 46	\$40,390 17

Income from Investments:

Endowments for general purposes (Coburn)	\$4,000 00	
Rents	2,220 95	\$6,220 95

Income from Grants by State and Nation:

State:

Appropriation for current expenses and buildings	\$101,500 00
--	--------------

Federal Aid:

Income from Land Grant—Act of July 2, 1862	5,915 00
Additional endowments—Act of Aug. 30, 1890 and March 4, 1907.....	45,000 00

\$152,415 00

Income from Departments:

Civil Engineering	\$866 61	
Mechanical Engineering	430 24	
Mechanics and Drawing	133 83	
Museum	157 36	
Economics and Sociology	4 00	
Greek	215 05	
Philosophy	10 25	
Biology	1,034 57	
Chemistry	1,363 48	
Pharmacy	7 96	
Physics	338 62	
Furnishings and Fixtures	1,099 01	\$5,660 98

Income from Other Sources:

College of Agriculture,—Sales.....	\$9,449 78	
Board of students, Summer Term—1910.....	406 14	\$9,855 92

\$214,543 02

STATEMENT SHOWING TOTAL EXPENDITURES

Salaries:

Salaries,—Officers	\$8,496 22	
Salaries,—Instructors	78,953 94	\$87,450 16

Administration Expenses:

Advertising	\$567 29	
Clerk Hire	4,360 73	
Commencement	357 95	
Freight and Express	410 30	
Office Supplies	1,783 97	
Printing Reports and Stationery	1,152 80	
Telephone and Telegraph	368 78	
Traveling Expenses	678 68	
Interest and Discount	1,751 31	
School Inspection	185 11	
Miscellaneous	793 91	\$12,410 83

Maintenance of Property:

Repairs to Buildings	\$4,224 44	
Care of Buildings	4,606 08	
Insurance	1,499 15	
Grounds	3,253 81	
Athletic Field	253 50	\$13,836 98

Heat, Light and Power:

Labor	\$2,327 74	
Repairs	347 12	
Supplies	956 93	
Electricity	2,192 88	
Coal	7,836 97	
Freight and Express	91 65	
Miscellaneous	4 49	\$13,757 78

Department Expenses:

Electrical Engineering	\$443 42	
Forestry	110 15	
Law School	9,066 76	
Law Library	939 58	
Library	2,921 29	
Mathematical Science	41 42	
Military Science	344 89	
Physical Training	233 58	
Education	53 00	\$14,154 09

House Charges:

University Inn	\$1,102 50	\$1,102 50
----------------------	------------	------------

College of Agriculture:

Salaries of Instructors	\$14,195 81	
Pay of Employees	9,180 94	
Farmer's Week	125 14	
Equipment	295 49	
Horses	25 00	
Poultry	212 30	
Other Live Stock	166 50	
Feed	2,762 76	
Hay and Straw	357 84	
Fertilizer, Seeds, etc.	500 25	
Sundry Supplies and Miscellaneous	767 21	
Repairs	669 42	
Travelling Expenses	802 40	
Postage, Printing and Stationery.....	662 47	
Freight and Express	679 89	
Advertising	40 00	
Domestic Science	1,490 17	
Farm Management and Agr. Engineering....	5 35	
Bacteriology and Vet. Science	108 93	
Biology and Agr. Chemistry.....	164 44	\$33,212 31

Sundry Accounts:

Summer Term, 1911	498 70
Prizes	10 00
Water Supply	1,041 35
Profit and Loss	558 57

	\$178,033 27
Surplus	36,509 75

\$214,543 02

STATEMENT SHOWING HOW SURPLUS WAS EMPLOYED

*Increased Assets:**Plant:*

Farm Buildings	\$163 53	
New Dormitory	47,625 62	
	\$47,789 15	
Less Waiting Rooms	135 70	\$47,653 45

Inventories, increased	17,777 09
Bills Payable, decreased	5,000 00

Surplus, decreased	6,385 67
Kittredge Loan Fund Investment increased..	31 50
	<hr/>
	\$76,847 80

LESS

Kidder Scholarship Fund, decreased.....	\$416 89	
Accounts Receivable, decreased	5,794 98	
Amount due from State, decreased.....	7,652 80	
Bills Receivable, decreased	486 16	
Accounts Payable, increased	25,837 20	
Kittredge Loan Fund, increased.....	29 23	
Cash on hand, decreased	120 79	\$40,338 05
	<hr/>	<hr/>
		\$36,509 75

MAINE AGRICULTURAL EXPERIMENT STATION

STATEMENT SHOWING RECEIPTS AND EXPENDITURES JULY 1, 1910 TO JUNE 30, 1911, INCLUSIVE

	Adams fund.	Hatch fund.	General fund.	Inspection account.	F. P. Inspection account.	Sardine industry.	Appropri- ation for printing.
Balance July 1, 1910.....	-	-	\$1,864 90	\$46 79	-	-	\$3,473 72
Total receipts.....	\$15,000 00	\$15,000 00	5,539 77	11,525 69	\$371 75	\$450 00	4,500 00
Total.....	\$15,000 00	\$15,000 00	\$7,404 67	\$11,572 48	\$371 75	\$450 00	\$7,973 72
Expenditures.....	15,000 00	15,000 00	8,491 76	11,696 00	290 50	50 20	7,236 68
Balance June 30, 1911.....			*\$1,087 09	*\$123 52	\$81 25	\$399 80	\$737 04

Respectfully submitted,

CHAS. J. DUNN,

Treasurer.

* Deficit balance.

REPORT OF THE PRESIDENT

To the Board of Trustees of the University of Maine:

The President of the University has the honor to present his first annual report, covering the year 1910-11.

RESIGNATIONS

During the year the University suffered the loss of a number of men. In every case the men resigned to accept positions offering greater opportunities than it was possible for the University of Maine to give them. This is a condition which will confront the University until its income is sufficient to make conditions here in opportunity and salary as good as can be offered elsewhere.

The College of Agriculture lost four men: Professor V. R. Gardner, Acting Dean and Professor of Horticulture, resigned to accept the position of Assistant Professor of Horticulture in the Oregon Agricultural College; H. G. Bell, Professor of Agronomy, resigned to accept the position of Agronomist for the Middle West Soil Improvement Company of Chicago; W. A. Brown, Assistant Professor of Animal Industry, resigned to accept a position as Poultry Expert with the Government of the Province of Ontario; J. R. Dice, Instructor in Animal Industry, resigned to accept a position as Professor of Animal Industry in the Morrisville, New York, Agricultural High School.

The College of Arts and Sciences lost during the year six men: Charles Davidson, Professor of Education, resigned with the expectation of retiring from active educational work; Gilman A. Drew, Professor of Biology, resigned to accept the position of Resident Director of the Marine Biological Station at Wood's Hole, Massachusetts; Robert J. Sprague, Professor of Economics and Sociology, was granted leave of absence for one year in order that he might take charge of a similar department in the Massachusetts State Agricultural College; W. P. Daggett, Professor of Public Speaking, was granted leave of absence for one year that he might pursue his studies at Columbia University; C. P. Weaver, Assistant Professor of English, resigned to accept the position of Instructor in English in the University of Kentucky; H. M. Royal, Instructor in Physics, resigned to become Professor of Mathematics in the Clarkson School of Technology at Pottsdam, N. Y.; H. R. Willard, Assistant Professor of Mathematics, is continued on leave of absence for another year in order that he may continue his studies at Yale University.

The Experiment Station lost Dr. F. M. Surface who resigned to accept the position of Biologist in the Kentucky Experiment Station.

The College of Law is the only College that lost a member of its faculty by death: Charles Hamlin, Lecturer on Bankruptcy and Federal Procedure, died May 15, 1911.

The College of Technology lost by resignation five men: W. M. Curtis, Assistant Professor of Mechanical Engineering, resigned to accept a position with the Cleveland Engineering Agency Company of Cleveland, Ohio; B. F. Brann, Instructor in Chemistry, resigned in order that he might become a candidate for his doctor's degree in the Laboratory of Physical Chemistry at the Massachusetts Institute of Technology; E. W. Templin, Instructor in Mechanical Engineering, resigned to accept the position of Assistant Superintendent in the shops of the Charlotte Harbor and Northern Railway; H. H. Jordan, Tutor in Civil Engineering, resigned to become Instructor in Civil Engineering at the University of Illinois; J. N. Philbrook, Instructor in Civil Engineering, resigned to accept the position as draughtsman with the Raymond Concrete Pile Company of New York City.

APPOINTMENTS

In the College of Agriculture the following appointments have been made:

Dr. L. S. Merrill, M. D., Dean of the College of Agriculture and Director of Extension Work.

G. E. Simmons, M. S., Professor of Agronomy.

E. F. Hitchings, C. E., M. S., Associate Professor of Horticulture.

W. L. Slate, Jr., B. S., Associate Professor of Agronomy.

W. F. Schoppe, B. S., Assistant Professor of Animal Industry.

R. W. Redman, Instructor in Animal Industry.

Cornelia Palmer, Instructor in Domestic Science.

In the College of Arts and Sciences the following appointments have been made:

Arthur J. Jones, Ph. D., Professor of Education.

M. A. Chrysler, Ph. D., Professor of Biology.

G. W. Stephens, Ph. D., Acting Professor of Economics and Sociology.

A. P. Raggio, Ph. D., Associate Professor of Romance Languages.

Alice M. Boring, Ph. D., Assistant Professor of Zoölogy.

W. L. Leighton, Ph. D., Instructor in English.

H. M. Parshley, A. M., Instructor in Zoölogy.

W. K. Huff, B. A., Instructor in English.

E. S. Samra, B. és L., Tutor in German.

In the Experiment Station the following appointment has been made:

E. P. Humbert, Ph. D., Associate Biologist.

In the College of Law the following appointment has been made:

John R. Mason, Lecturer in Bankruptcy and Federal Procedure.

In the College of Technology the following appointments have been made:

W. H. Herschel, B. A., Assistant Professor of Mechanical Engineering.

R. B. Kittredge, B. S., Instructor in Civil Engineering.

E. O. Whittier, B. S., Instructor in Chemistry.

C. H. Lekberg, B. S., Instructor in Mechanical Engineering.

A. H. Blaisdell, B. S., Tutor in Mechanical Engineering.

It is a pleasure to report that without a single exception the new appointees are doing most acceptable work. They represent in their training a wide range of institutions. They bring to our faculty the experience and ideals of many of the best institutions in the country. That they have quickly and easily adapted themselves to the needs and conditions in the University of Maine bears high testimony to their qualities as scholars and teachers.

NEW EQUIPMENT

During the vacation just closed, a new boiler was installed in the heating plant. This gives one boiler in reserve at all times, as three boilers are sufficient to carry the present load. The plan now in operation is to use each boiler three weeks and allow it to rest one week. In this way the boilers can be frequently inspected, thoroughly cleaned, and given whatever minor repairs may be needed.

Hannibal Hamlin Hall, the new dormitory for men, has been completed and furnished and is now occupied by students. It gives splendid accommodations of 156 men. At the opening of the fall semester the building was full.

The old Commons building has been transformed into a recitation building for the English Department. It is now known as Estabrooke Hall. It has in it four large recitation rooms, two smaller recitation rooms, and four office rooms. The accommodations afforded the English Department by the change are as good as that enjoyed by any department in the University. For the first time the English Department has its work so arranged that the head of the Department can give personal oversight to all the work.

The Bangor fire destroyed the College of Law building, all the books, fixtures and records. The Board of Trustees purchased the Merrill property at the corner of Union and Second Streets in Bangor. This building is admirably suited for the purposes of the College of Law. The insurance money received from the policies on the law library has been expended for new books. In the building at the new location the law library is now in position and is larger and better than ever before. It is believed the College of Law in its present comfortable quarters will have a rapid and permanent growth.

WOMEN IN THE UNIVERSITY

The opportunities offered by the work in Domestic Science and the general opportunities offered in the College of Arts and Sciences are attracting women to the University in increasing numbers. If the University is to meet the desire of women to attend the institution, it will be necessary at an early date to provide more accommodations than are at present afforded. An addition might be built to the Mt. Vernon House so as to double the capacity of that building. This would meet the needs for a year or two.

A COSMOPOLITAN FACULTY

It is interesting to note that the members of the faculty of the University have been prepared in sixty-two of the leading colleges of America and Europe. Nearly every college of note north of Mason and Dixon's line and east of the Rocky Mountains is represented. Those who have had the duty of selecting members of the faculty in the past have shown great wisdom in choosing men from so many different institutions. If the strength of the University is to be maintained, this policy must be continued in the future. In the complex work of educating men and women, there is needed every possible point of view. Hence it is necessary that every possible kind of educational advantage should be represented in the faculty.

A HARMONIOUS FACULTY

As a new man, serving his first year in the institution, I take pleasure in testifying to the general spirit of harmony and coöperation that exists in the faculty. Through the wisdom of the Board, certain officials have been given specific duties and definite responsibilities. These men are exercising their official duties with wisdom and are meeting with hearty coöperation from the members of the faculty. This condition is a necessary one for good work, and it is certainly gratifying that at the University of Maine those connected with the institution realize that it is their business to serve the University and State, and that they can do this best by hearty coöperation with their fellows.

Respectfully submitted,

ROBERT JUDSON ALEY,

President University of Maine.

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OF THE
UNIVERSITY OF ILLINOIS

The Maine Bulletin

Entered at the Orono Post Office as second-class matter

Vol. XV

University of Maine, Orono, Maine, November, 1912

No. 3

ANNUAL REPORT

of the

UNIVERSITY OF MAINE

For the Year Ending June 30, 1912



Reports of the Trustees, Treasurer, President,
Deans, Director, Librarian, and Professor
of Physical Culture

ANNUAL REPORT

OF THE

UNIVERSITY OF MAINE

FOR THE YEAR ENDING JUNE 30, 1912

REPORTS OF THE TRUSTEES, TREASURER, PRESIDENT,
DEANS, DIRECTOR, LIBRARIAN, AND PROFESSOR
OF PHYSICAL CULTURE

Published for the University
SENTINEL PUBLISHING COMPANY

WATERVILLE, MAINE

1912

CONTENTS

Report of the President of the Board of Trustees	5
Report of the Treasurer of the University	7
Report of the President of the University	16
Report of the Dean of the University	19
Report of the Dean of the College of Agriculture	24
Report of the Dean of the College of Arts and Sciences	31
Report of the Dean of the College of Law	34
Report of the Dean of the College of Technology	36
Report of the Librarian	39
Report of the Professor of Physical Culture	43
Report of the Director of the Maine Agricultural Experiment Station	44

REPORT OF THE PRESIDENT OF THE BOARD OF TRUSTEES

To the Honorable Governor and Council:

The Trustees of the University of Maine respectfully submit their Annual Report to you, with the reports of the President, Treasurer, and other officers of the University.

The past year has brought about one change in the Board of Trustees,—the resignation of Hon. Oscar R. Wish, of Portland, whose place has been filled by the appointment of Hon. W. R. Pattangall, of Waterville. The retirement of Mr. Wish took from our Board a most earnest and loyal supporter of this institution, and its announcement was received by the Board with much regret. But we are pleased to know that his place has been filled by one of the graduates of the University who has achieved distinction and honor in his profession and in the public service of the State.

The work of the University during the past year has been prosecuted with diligence, and, as we believe, with increasing benefit to the people of Maine.

This institution now has more than one thousand young men and women in its different classes and courses. There has been a very great increase in numbers in the entering freshman class for 1912, and it is with great difficulty that we are able to furnish proper accommodations for so large a number of students as this institution now has. There is not only insufficient dormitory room, but there is lack of room for teaching and class room work, and laboratory facilities. If the increase in number of students in the future continues as it has in the past, the State will have to provide additional buildings and apparatus for the proper handling and instruction of the student body. A committee will be appointed by the Board of Trustees to present this matter more in detail to the next Legislature.

We feel that the work done at our State University, and the position which it occupies relative to the other state universities in the Nation, should commend it to the people of the State and to their Representatives in the Legislature in such a way that in the future no serious objections will be made to all reasonable and proper appropriations of money which are shown to be necessary in order to carry on this work.

The reports of the President, Treasurer, and other officers give in detail the work which is being done at present, and the ambitions of those in charge of the institution for its future development. The Treasurer's report shows in detail the receipts and expenditures of every dollar of money received from the National and State treasuries and from private bequests.

In retiring from this Board of Trustees, as I expect to retire in a very short time, after a service of more than a quarter of a century, I wish to extend to all those I have been associated with in the past my appreciation of the courtesy and kindness I have received from them during this long term of service. It is with a feeling of regret that I am to discontinue my service in this connection. Of all the work which I have done in a private or public capacity, this I have enjoyed the most. Looking back over this long period of time and considering how small the institution was when I commenced as compared with what it is today, and looking ahead for a like period, I cannot but feel that the future has in store for this institution a still greater and increasing development and usefulness to the people of Maine; that the work it is doing will continue to be more and more appreciated; that the work of education, especially along scientific lines, will be better and more generally understood by the great mass of our people; and that the money which the State has expended in the development of this institution is sure to be considered as money which has been and will be wisely and advantageously expended for the benefit of the people as a whole.

Respectfully submitted,

WILLIAM T. HAINES,

President of the Board of Trustees

REPORT OF THE TREASURER OF THE UNIVERSITY OF MAINE FOR THE FISCAL YEAR ENDED JUNE 30, 1912

ASSETS

Trust Fund Investments:

Coburn Trust Fund	Schedule A	\$100,000 00	
U. S. Land Scrip Fund	Schedule A	118,300 00	
Nehemiah Kittredge Loan Fund	Schedule B	1,306 50	
Kidder Scholarship Fund	Schedule B	750 00	\$220,356 50
<hr/>			
Lands and Buildings	Schedule C		534,465 73
Inventories	Schedule D		200,817 63
Accounts Receivable	Schedule E		10,233 03
General Appropriation, State of Maine	Schedule F		9,352 16
Bills Receivable	Schedule G		4,301 58
Cash on hand, June 30, 1912	Schedule H		882 75
<hr/>			
			\$980,409 38

LIABILITIES

Trust Funds:

Coburn Trust Fund		\$100,000 00	
U. S. Land Scrip Trust Fund		118,300 00	
Nehemiah Kittredge Loan Fund		1,306 50	
Kidder Scholarship Fund		750 00	\$220,356 50
<hr/>			
Bills Payable	Schedule I		54,750 00
Accounts Payable	Schedule J		25,687 49
Surplus			679,615 39
<hr/>			
			\$980,409 38

SCHEDULE A—ASSETS

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in registered bonds of the State of Maine, dated Feb. 5, 1889, due July 1, 1917, bearing interest at 4% per annum, of the par value of..... \$100,000 00

United States Land Scrip Trust Fund Investment:

Under the provisions of an Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from

the sale of which the University has realized an endowment fund. This fund is represented by registered bonds of the State of Maine, dated June 1, 1889, due June 1, 1915, bearing interest at 5% per annum, of the par value of..... \$118,300 00

NOTE: All of the foregoing described bonds are deposited with the Treasurer of the State of Maine.

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge, of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same, loans are made to needy students in the three upper classes. It is now invested as follows:

Twenty promissory notes, signed by present and former students of the University, and aggregating, exclusive of accrued interest	\$1,041 98
On deposit in Bangor Savings Bank, Book No. 45602....	264 52
	<hr/>
	\$1,306 50

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder of Denver, Colorado, class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, and amounting to	\$750 00
---	----------

This fund is on deposit in the Bangor Savings Bank, as per Deposit Book No. 45603.

SCHEDULE C—ASSETS

Lands and Buildings:

Alumni Field, structures only	\$1,000 00
Alumni Hall	31,979 80
Campus and Farm Lands	11,000 00
Carnegie Library	50,985 06
Coburn Hall	28,203 80
Estabrooke Hall	6,000 00
Faculty Houses	26,235 65
Farm Buildings	25,230 14
Fernald Hall	30,000 00
Hannibal Hamlin Hall	55,707 62
Heating Plant	56,664 97
Horticultural Building	2,500 00
Infirmary	700 00
Janitor's House	1,000 00
Kappa Sigma House	5,400 00
Law Building (Bangor)	33,750 00
Locomotive House	200 00

Lord Hall	\$38,337 48
Mount Vernon House	3,500 00
Oak Hall	40,000 00
Observatory	500 00
Old Pumping Station	1,200 00
Power House	1,000 00
Stand Pipe and Fixtures	1,000 00
Stock Judging Pavilion	4,292 46
Store House	500 00
Store House	500 00
Theta Epsilon House	3,500 00
Waiting Room	226 97
Wingate Hall	25,143 93
Winslow Hall	45,207 85
Woodward Farm	3,000 00
	<hr/>
	\$534,465 73

SCHEDULE D—ASSETS

Inventories:

Advertising	\$537 12
Biology	7,853 43
Care of Buildings.....	34 50
Commencement	302 73
Chemistry	12,380 18
Civil Engineering	7,885 10
Commons	1,599 12
College of Agriculture:	
Postage, Printing, and Stationery.....	358 74
Sundry Supplies and Miscellaneous	451 15
Equipment	10,139 76
Cows	3,988 00
Horses	1,465 00
Poultry	752 75
Other Live Stock	953 00
Feed	413 60
Domestic Science	856 72
Bacteriology and Veterinary Science	2,566 60
Biological and Agricultural Chemistry.....	796 20
Diplomas	60 33
Economics and Sociology	45 00
Electrical Engineering	6,983 46
English Language	214 50
Forestry	1,256 00
Furnishings and Fixtures	8,296 93
Greek	1,463 05
Hannibal Hamlin Hall	2,938 19
History	111 00
Inn	2,303 30

Insurance	\$7,563 95
Latin	95 10
Laundry	406 34
Law School	1,422 00
Law Library	8,720 39
Library	52,437 93
Locker Account	680 00
Mathematical Science	4,257 25
Mechanical Engineering	20,702 35
Mechanics and Drawing	897 10
Military Science	312 00
Mount Vernon House	1,366 41
Museum	10,707 24
Oak Hall	143 03
Office Supplies and Postage	450 81
Pharmacy	261 24
Philosophy	347 75
Physical Training	1,642 80
Physics	7,145 22
Power, Heat, and Light:	
Coal	3,085 50
Supplies	861 30
Repairs to Buildings	177 10
Water Supply	129 36
	<hr/>
	\$200,817 63

SCHEDULE E—ASSETS

Accounts Receivable:

This account represents funds due the University as follows:

Students' accounts	\$7,795 48
Other general ledger accounts	2,437 55
	<hr/>
	\$10,233 03

SCHEDULE F—ASSETS

State of Maine, General Appropriation:

Amount due the University under the provisions of Chapter 269 of the Resolves of the State of Maine for the year 1909, and unpaid

\$9,352 16

SCHEDULE G—ASSETS

Bills Receivable:

Represents notes held by the University as follows:

Eighty (80) promissory notes signed by present and former students, given in settlement of tuition fees, term bills, etc., and aggregating	\$1,801 58
Three promissory notes given by Building Association	2,500 00
	<hr/>
	\$4,301 58

SCHEDULE H—ASSETS

Cash Balance, June 30, 1912:

On deposit, Merrill Trust Co., Bangor, Me.....	\$16 69
On deposit, Eastern Trust & Banking Co., Old Town, Me.	3 17
Cash at office (cash drawer)	862 89
	<hr/>
	\$882 75
Cash on hand, June 30, 1911	\$1,268 37
Total receipts for year	373,733 41
	<hr/>
	\$374,001 78
Total disbursements for year	373,119 03
	<hr/>
	\$882 75

SCHEDULE I—LIABILITIES

Bills Payable:

Law Building promissory notes—

Merrill Trust Co., Bangor, Due Sept. 1, 1913.....	\$28,750 00
Merrill Trust Co., Bangor, Demand	5,000 00
	<hr/>

\$33,750 00

Promissory notes given for general purposes—

Merrill Trust Co., Bangor, Due July 15, 1912.....	5,000 00
Merrill Trust Co., Bangor, Due July 29, 1912	16,000 00
	<hr/>

\$54,750 00

SCHEDULE J—LIABILITIES

Accounts Payable:

Summer Term, 1912	\$1,072 75
Key Deposit Account	5 00
Maine Agricultural Experiment Station	2,243 55
Audited Vouchers	22,366 19
	<hr/>
	\$25,687 49

STATEMENT SHOWING INCOME FROM ALL SOURCES

Income from Students:

Registration fees	\$5,800 00	
Tuition fees, general.....	\$15,299 00	
Tuition fees, College of Law.....	5,526 66	20,825 66
	<hr/>	
Incidental fees	11,455 00	
Special fees for libraries, laboratories, de- grees, etc.	659 30	
For dormitories	2,334 37	\$41,074 33
	<hr/>	

Income from Investments:

Endowment for general purposes (Coburn)	\$4,000 00	
Rents	2,409 54	6,409 54
		<hr/>

Income from Grants by State and Nation:

State:

Appropriation for current expenses and build- ings	\$101,500 00
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Federal Aid:

Income from Land Grant—Act of July 2, 1862	5,915 00	
Additional endowments—Acts of Aug. 30, 1890, and March 4, 1907.....	50,000 00	157,415 00
		<hr/>

Income from Departments:

Civil Engineering	\$134 34	
Law Library	1,041 48	
Mechanics and Drawing	13 10	
Chemistry	477 45	
Bacteriology and Veterinary Science	264 80	
Biological and Agricultural Chemistry.....	31 68	
Furnishings and Fixtures	111 99	2,074 84
		<hr/>

Income from Other Sources:

College of Agriculture, sales	\$10,890 95	
Board of Students, Summer Term—1911...	61 59	
Law Building contributions.....	219 00	
Drill Hall contributions	50 00	
Equipment	61 42	
Other Live Stock account	40 50	11,323 46
		<hr/>
		\$218,297 17

STATEMENT SHOWING TOTAL EXPENDITURES

Salaries:

Salaries of officers	\$7,800 00	
Salaries of instructors	79,989 30	\$87,789 30
		<hr/>

Administration Expenses:

Advertising	\$581 92
Clerk Hire	4,899 04
Commencement	305 45
Freight and Express	286 39
Office Supplies and Postage.....	1,897 52
Printing Reports and Bulletins.....	1,684 76
Telephone and Telegraph	565 25
Traveling Expenses	753 41
Interest and Discount	1,255 57
School Inspection	32 96

Printing and Binding	\$194 17	
Miscellaneous	463 36	12,919 80
		<hr/>

Maintenance of Property:

Repairs to Buildings	\$6,041 93	
Care of Buildings.....	5,416 87	
Insurance	1,879 29	
Athletic Field	112 88	13,450 97
		<hr/>

Heat, Light, and Power:

Labor	\$3,794 78	
Repairs	50 81	
Supplies	3,763 26	
Electricity	1,613 52	
Coal	8,551 38	
Freight and Express	231 25	18,005 00
		<hr/>

Department Expenses:

Electrical Engineering	\$133 51	
Law School	8,434 06	
Library	1,324 19	
Mathematical Science	108 34	
Mechanical Engineering	18 81	
Military Science	68 40	
Museum	535 65	
Physical Training	264 95	
English Language	7 67	
Philosophy	25 20	
Pharmacy	16 64	
Biology	622 91	
Physics	228 42	
Shop	27 85	11,816 60
		<hr/>

House Charges:

Commons	\$706 67	
Inn	227 94	
Mount Vernon House	2 57	
Laundry	50 31	987 49
		<hr/>

College of Agriculture:

Salaries of Instructors	\$13,037 48	
Pay of Employees	9,181 74	
Farmers Week	73 53	
Forestry	381 84	
Horses	520 00	

Cows	\$145 00	
Poultry	21 25	
Feed	4,323 94	
Hay and Straw	140 20	
Fertilizer, Seeds, etc.	786 18	
Sundry Supplies and Miscellaneous.....	2,801 45	
Repairs	86 89	
Traveling Expenses	849 39	
Postage, Printing and Stationery	694 58	
Freight and Express	310 09	
Advertising	4 29	
Domestic Science	1,670 75	35,028 60

Sundry Accounts:

Summer Term, 1911	\$1,151 93	
Prizes	65 00	
Water Supply	4,273 57	
Profit and Loss	337 19	5,827 69

\$185,825 45

Surplus 32,471 72

\$218,297 17

STATEMENT SHOWING HOW SURPLUS WAS EMPLOYED

Increased Assets:

Plant—

Heating Plant	\$1,012 50
Hannibal Hamlin Hall	493 41
Law Building (Bangor).....	33,750 00
	<hr/>
	\$35,255 91

Less—

Waiting Room (burned)	50 00	\$35,205 91
	<hr/>	
Inventories, increased		6,149 24
Accounts Payable, decreased		18,719 16
		<hr/>
		\$60,074 31

LESS

Accounts Receivable, decreased	\$9,924 12	
Amount due from State, decreased	16,851 42	
Bills Receivable, decreased	191 43	
Bills Payable, increased	250 00	
Cash on hand, decreased	385 62	27,602 59
	<hr/>	

Net increase in surplus \$32,471 72

MAINE AGRICULTURAL EXPERIMENT STATION
STATEMENT SHOWING RECEIPTS AND EXPENDITURES JULY 1, 1911 TO JUNE 30, 1912, INCLUSIVE

	Adams Fund	Hatch Fund	General Fund	Inspection Account	Food Packing Inspection Account	Sardine Industry	Appropria- tion for Printing
Balance July 1, 1911.....	-	-	*\$1,087 09	*\$123 52	\$81 25	\$399 80	\$737 04
Total receipts.....	\$15,000 00	\$15,000 00	8,804 45	23,813 84	215 47	-	4,500 00
Totals.....	\$15,000 00	\$15,000 00	\$7,717 36	\$23,690 32	\$296 72	\$399 80	\$5,237 04
Expenditures.....	15,000 00	15,000 00	8,391 24	16,696 34	296 72	399 80	2,593 20
Balance June 30, 1912.....	-	-	†\$673 88	\$6,993 98	-	-	\$2,643 84

* Deficit balances June 30, 1911
† Deficit balance June 30, 1912

To the Trustees,
University of Maine

Respectfully submitted,
CHARLES J. DUNN,
Treasurer

REPORT OF THE PRESIDENT OF THE UNIVERSITY

To the Board of Trustees of the University of Maine:

I have the honor to present to you the following report:

It is a pleasure to call your attention to the growth of the institution. For a number of years this growth has been steady and regular. At present the total enrollment is in excess of 1000. It has long been the ambition of the University to reach the thousand mark. This ambition is now gratified. It does not follow, however, that the growth of the institution will stop with this figure. There is every reason to believe that the increasing interest in education will continue to bring, not only to the University of Maine, but to every college in the State, larger numbers of students each year.

It is a pleasure, also, to record the fact that the students are interested in their work, loyal to the best interests of the University and State, and ready to coöperate in every good work. The spirit of the University is one of loyalty, patriotism, and coöperation.

Very few changes have occurred in the faculty of instruction. The University is fortunate in having a hard working, well trained, and harmonious teaching force. The plan of organization provided by the Board of Trustees more than a year ago has resulted in economy of time and effort. It has also produced better work because it has fixed responsibility.

I desire to emphasize the recommendation of the Dean of the University concerning the needs of free tuition or of scholarships. As he so clearly points out, students coming to the University of Maine ought to have equal chance with those who go to privately endowed institutions. Ultimately, the University of Maine, in common with other state universities, ought to give free tuition to her own citizens. If this is not advisable at the present time, provision should be made for a considerable number of scholarships. The suggestion of Dean Hart that each state senator be allowed to appoint annually a scholar who shall receive free tuition seems to be a good and fair plan. This would in time give us 124 senatorial scholars.

The increase in attendance has made it necessary to add three instructors, two in agriculture and one in chemistry. It will be necessary to employ additional instructors next year. Already there is need of more help in the College Agriculture and in the Departments of Economics, English, French, and Education.

Dean Boardman in his report shows the need of equipment and instruction in hydraulic engineering. Certainly the conditions in Maine are such that the University ought to lead in the matter of preparing

hydraulic engineers and in providing a proper place for hydraulic testing. This matter should be carefully considered and proper provision should be made for carrying out Dean Boardman's suggestions.

Dean Stevens points out that a state university ought to have a well equipped department of geology. The need of the establishment of such a department is so evident that no argument will be made for it. It should be sufficient to point out the lack of provision for adequate instruction in this science.

In the employment of faculty members the University of Maine is in competition, not only with the other colleges of the State, but with all the colleges of the United States. A recent study of the salaries paid in the other colleges of New England and in state universities of the middle west, shows conclusively that the University of Maine is not paying salaries equal to those paid in other institutions of her class. Men can not be happy and contented in their work unless salary conditions are such as to allow them to live in a manner befitting the positions they fill. A very large number of the colleges with which we compete are upon the Carnegie Foundation. They can hold out to the men they employ the advantages of a retirement pension. A simple calculation will show that a non-Carnegie institution, to compete on equal terms with a Carnegie institution, must be able to pay from \$500 to \$800 more salary per year. Combine with the above facts the present high cost of living and it is clear that the University of Maine must make arrangements for very material increases in salaries if she is to maintain a high standard of excellency.

The need of additional equipment is very evident. The rapid scientific developments now going on make necessary the frequent renewal of instruments in Technology and Agriculture and the addition of much new apparatus. In order to bring our laboratories up to a high standard we need to spend at least \$10,000 for new apparatus. If we are to retain a high standard the annual appropriations for equipment should be at least 50 per cent. greater than in the past.

Modern education is making a larger use of the library than formerly. Students are expected to learn how to use books and to get from them the truths which they contain. If the student is to have the large opportunity needed, the library must be kept fully equipped with the newest and best books. Hence, the need, so clearly pointed out by Librarian Jones, is a real one. We ought to have at least \$5000 a year to spend for books and periodicals.

There is great and urgent need for a physical-chemical laboratory to accommodate the Departments of Physics and Chemistry. The present quarters are entirely inadequate. Chemistry is the one science which practically every student in the University of Maine must study. It is the foundation of much of the work in technology and agriculture. We need a modern building that will make it possible for every student coming here to receive the very best opportunities possible. We should have a building designed especially for the needs of Physics and Chemistry and costing at least \$100,000. The erection of such a building

would release Fernald Hall for recitation purposes and would solve some of the crowded class-room problems. It would also give needed space in Wingate Hall for Civil Engineering.

At present, 77 young women are in attendance at the University. The Mt. Vernon House, by crowding, accommodates 27. We are taking care of 10 at the University Inn. Others are compelled to live either at home, in Old Town, Orono, Bangor, or Stillwater, or to board in private families. The University ought to be able to take care of the girls who come here to study. They should have the same consideration as is given to the other sex, because they have the same right to seek an education. We need an addition to the Mt. Vernon House or a new dormitory. The needed accommodations, including proper gymnasium facilities, can be provided for about \$40,000.

Dean Merrill points out the need of a new dairy barn. This need is so urgent that argument for it is unnecessary. The University of Maine should have a dairy barn built according to the best modern theories and equipped with every needed convenience and labor-saving device; \$25,000 ought to build it.

Dean Boardman has shown that we ought to have a testing laboratory of the College of Technology. At present some \$18,000 worth of machinery and testing apparatus is set up in the old heating plant. The building itself is an eye-sore on the campus, and besides, is entirely inadequate and wholly unfit for the purposes for which we are compelled to use it. A unit building such as described by Dean Boardman could be constructed in place of the present old shack for \$15,000 or \$20,000. Such a building would provide space for testing apparatus and furnish proper housing for present machinery.

Due to the Bangor fire, it was necessary for the University authorities to find a place for the proper care of the College of Law. After very careful investigation, the building now used at Second and Union Streets was purchased. The purchase price was most advantageous. Of course it was purchased upon faith. Provision should be made to pay for this building, \$33,750 being the amount required.

As you are doubtless aware, our present appropriation ends with December, 1912. The Legislature should be asked to make an emergency appropriation of \$50,000 early in January to carry the University until June 30th.

For the running expenses of the University we should have an appropriation from the State of \$110,000 a year.

The General Education Board is now financing four directors of demonstration farming under the supervision of the College of Agriculture. This will result in much good, but it does not relieve the demand for general extension work. Provision should be made so that at least two men could be kept constantly in the field. An appropriation of \$5000 a year would take care of present needs.

Respectfully submitted,

ROBERT J. ALEY,

President of the University

REPORT OF THE DEAN OF THE UNIVERSITY

To the President of the University:

I have the honor to present the following report for the college years 1910-11 and 1911-12.

Freshmen admissions and the extent of the preparation of the candidates are shown in the following table, continued from my 1910 report:

Year	1904	1906	1908	1909	1910	1911
Regular freshmen	88	157	162	152	143	162
Average number of points offered	22.8	24.9	27.30	27.5	27.7	27.6
Percentage admitted without conditions	48	62	62	40	51	56
First year specials	27	17	21	6	9	12
Percentage of special students	23.5	10	11.5	4	6	7

No account is made here of students in the Short Pharmacy, or the two years Home Economics curriculum, or in the School Course in Agriculture, these admissions being administered by the Professor of Pharmacy and the Dean of the College of Agriculture, respectively. The number of points required for admission was increased from 25 to 27 in 1908 and to 28 in 1909. If the above table is compared with previous reports or catalogs, it should be remembered that the credit allowed for algebra has been changed from four points to three. This change is in harmony with the practice of the leading colleges, in fact of nearly all colleges outside of Maine.

The apparent sharp increase in the percentage of conditioned students shown in 1909 is explained partly by the increase of one point in the requirements and partly by the fact that, beginning with that year, we have classified as special students only those so registered who are over twenty-one years of age. On the whole, the figures show, I think, a gradual but material improvement in the preparation of our freshmen.

The following data regarding the work of the classes of 1914 and 1915 during their freshman year may be of interest as showing the effect of conditions upon the student's work. All first year students regarded as candidates for a degree are considered in four classes: (a) those admitted without conditions; (b) those who offered 28 or more points, but were conditioned in a required subject; (c) those who had conditions of one to four points, and (d) those with conditions of more than four points.

	(a)		(b)		(c)		(d)	
	1910-11	'11-12	'10-11	'11-12	'10-11	'11-12	'10-11	'11-12
Whole number	73	87	7	10	54	50	9	8
No. who completed the year without any "conditions"	37	45	2	5	10	19	2	2
Percentage without conditions	51	52	29	50	18.5	38	22	25
No. receiving one or more marks of "conditioned"	35	40	4	4	42	29	5	6
No. receiving one or more "failed"	22	15	0	3	25	10	3	2
Average number of semester hours of college work completed	33.7	34	31.0	33.0	30.3	32.7	28.5	30.1
Average rank first semester		80.0		77.6		78.4		76.0

It is difficult to tell how far the poor record of class (c) is due to insufficient preparation, and how much to the fact that a material fraction of their time was necessarily given to preparation for deferred entrance examinations. In most cases they had actually covered the full requirements in the preparatory school, but had failed to receive certificate rank, or to pass the entrance examinations. In many cases the deficiency was in subjects taken during the early part of the high school course and not continued in college, and some of these students if they could have given all their time to college work might have done as well as those in class (a). The record of those with excessive conditions (over four points) appears to show that their cases were carefully considered by the committee on admission, as their record is, on the whole, quite as good as that of class (c). It is to be recognized, of course, that the numbers here considered are not large enough to warrant drawing final conclusions.

ADMISSIONS CLASSIFIED BY SCHOOLS

Candidates were admitted in 1910 and 1911 from schools in Maine as follows, the figures first given referring to 1910:

Bangor 11-13; Bar Harbor 4-1; Belfast 3-1; Biddeford 2-4; Bluehill 1-1; Brewer 1-2; Bridgton Academy 1-1; Bridgton High 0-3; Bristol 0-1; Brunswick 0-2; Calais 0-3; Camden 1-1; Caribou 0-2; Coburn Classical Institute, Waterville, 4-6; Cony High, Augusta 3-2; Corinna Academy 0-1; Danforth 1-0; Deering 2-2; Dexter 0-3; East Maine Conference Seminary, Bucksport 1-1; Easton 1-0; Eastport 0-3; Edward Little High, Auburn 2-2; Ellsworth 1-1; Farmington 1-1; Fort Fairfield 1-0; Foxcroft Academy 1-4; Freedom Academy 0-1; Fryeburg Academy 1-1; Gardiner 1-0; Good Will 0-1; Gorham 0-1; Gould's Academy, Bethel 0-2; Hallowell 0-1; Hampden Academy 2-3; Hebron Academy 1-4; Islesboro 1-1; Leavitt Institute, Turner Center 1-1; Lewiston 0-4; Limestone 0-2; Livermore Falls 1-0; Madison 1-0; Maine Central In-

stitute, Pittsfield 2-2; New Gloucester 0-1; Newport 1-0; North Yarmouth Academy 7-2; Norway 0-2; Oak Grove Seminary, Vassalboro 1-0; Old Town 7-7; Orono 5-8; Oxford 1-0; So. Paris 3-2; Patten Academy 1-0; Portland 6-6; Princeton 0-2; Ricker Classical Institute, Houlton 0-1; Rockland 2-1; Rockport 0-2; Rumford 1-2; Skowhegan 1-0; Solon 1-1; South Portland 1-2; Thomaston 1-2; Thornton Academy, Saco 2-1; Waterville 1-0; Westbrook 2-1½; Westbrook Seminary 2-1; Wilton Academy 1-1; Winthrop 1-0.

Schools outside of Maine:

In 1910:

Attleboro, Dorchester, Dean Academy, Westfield, Mass.; Berlin, N. H.; Hartford, Ct., and Trinity Chapel School, N. Y., two each; Boston Latin, Mechanic Arts, Boston, Concord School, Haverhill, Malden, Medfield, Methuen, Orange, Peabody, Reading, Somerville, Somersworth, Springfield Technical, Wareham, West Roxbury, Wilmington, Worcester (So.), Mass.; Milford, Milton, New Hampton, Phillips-Exeter, Rockland Military Academy, N. H.; Ansonia, Conn., Pawtucket, R. I., Erasmus Hall (Brooklyn), Columbia Grammar, Peekskill Military Academy, N. Y.; Ohio Military Institute, one each.

In 1911:

Beverly, Lynn, Malden, Salem, Somerville, Mass., Lock Haven, Pa., two each; Arlington, Boston Latin, Stone School (Boston), Framingham, Haverhill, Ipswich, Lowell, Melrose, New Bedford, Oliver Ames High, Peabody, Plymouth, Reading, Whitman, and Highland Military Academy (Worcester), Mass.; New Hampton and Phillips Exeter, N. H.; Chester, Hartford, Middletown, Conn.; Trinity Chapel, N. Y., and Conway Hall, Carlisle, Pa.—one each.

Percentage of admissions from Maine schools...	1910 70.4	1911 78.3
Percentage from schools outside of Maine.....	29.6	21.7

Last year an investigation was made from the Secretary's records of the relative standing of students admitted to this University from different classes of schools. The figures are based upon the first semester college record of students admitted in the years 1905-1909.

CERTIFICATE BOARD SCHOOLS

Subject	Chemistry	French	German	Math.	English	Total
(1) No. taking	304	204	127	346	356	1347
(2) No. failing to pass	40	35	23	39	54	191
(3) Percentage of failures	11.6	14.6	15.3	10.1	13.2	12.4
OTHER SCHOOLS						
(1)	135	83	45	142	143	548
(2)	17	21	7	20	17	82
(3)	11.2	21.9	13.5	12.3	12.3	13.0
CERTIFICATE BOARD SCHOOLS IN MAINE						
(1)	215	149	90	250	256	960
(2)	31	23	19	31	42	146
(3)	12.6	13.4	17.5	11.0	14.1	13.2
OTHER MAINE SCHOOLS						
(1)	103	66	32	107	103	411
(2)	14	17	2	15	12	60
(3)	14.9	20.5	5.9	12.4	10.5	12.7

It will be seen that when all the schools are considered the results from students from certificate-giving schools were, on the average, slightly better than from students entering by examination. For the Maine schools the case is reversed. The differences in each case, how-

ever, are so slight that we can only conclude that we have been just about equally successful in selecting our students by certificate and by examination.

NEW METHOD OF ADMISSION

The University of Maine was one of the eleven colleges that united in the formation of the New England College Entrance Certificate Board in 1901 and has for ten years admitted candidates upon certificate from only those schools approved by that Board. Our connection with the Board has been of great advantage to the University by giving us a standard recognized by all New England colleges. We believe that it has also been of distinct advantage to the Maine secondary schools. Our Faculty have never believed, however, that the Board could permanently furnish the best method of administering admission from Maine schools. During the past year, the University Faculty, after long consideration of the question, decided that as the State University we should recognize the schools and courses approved by the State Department of Education as furnishing college preparation, and admit their graduates upon their records.

Under the new system of admission, any graduate of a Class A school or academy who has passed in school all the specific requirements for admission to the curriculum he wishes to follow in college may offer, in making up his electives, any other work that has been credited toward his graduation.

Notice of the adoption of the new plan was sent to principals of all secondary schools shortly before the close of the school year.

I wish once again to call attention to the suggestion made in previous reports regarding scholarships. No questions occur more frequently in letters from prospective students than those regarding means of defraying expenses. Our curricula, especially in the College of Technology, are year by year becoming more difficult and it naturally follows that the average student cannot during the term find very much time for work that will bring in money. It is to be hoped that the State may soon adopt the plan of giving free tuition to all residents of the State who are prepared to pursue courses in its University. Tuition is already free in the agricultural courses. There seems to be no good reason why those who wish to fit themselves in the University to serve the State by teaching in her secondary schools, should not be treated equally well. A similar argument will apply to other curricula. In fact, it seems difficult to draw a line between curricula for which tuition should be charged and those which should be free.

Education at the State University should be at least as easy to obtain for any boy or girl as it is at any private college. If the State is not ready to grant free tuition to all Maine students, it is extremely desirable that a considerable number of scholarships, covering tuition—say \$60 per year, should be established. Each State senator might be given the right to appoint a scholar for each of the years of his own term of office. It should be provided that scholarships will be awarded only to can-

didates for admission who present credentials from an approved school, entitling them to admission without condition, or who pass with high rank examinations covering full admission. These provisions would tend to improve the preparation for college.

The year has been one of steady progress. Students have applied themselves earnestly and successfully. There have been but five cases of discipline. Competition between the fraternities for the inter-fraternity scholarship cup has been earnest, but good natured. This cup was won in 1909, 1910 and 1911 by the Beta Theta Pi, Alpha Tau Omega, and Phi Gamma Delta fraternities, respectively.

The average ranks of various classes of students for the calendar years, 1909, 1910, 1911 are given below:

	1909	1910	1911
Fraternity men	76.9	77.1	78.6
Non-Fraternity men	77.8	79.6	78.2
Fraternity women	85.2	86.1	86.6
Non-Fraternity women	84.9	85.9	83.4
Athletes			79.5
Freshmen	75.4	76.2	78.1
Sophomores	78.8	77.9	79.2
Juniors	79.0	80.3	79.2
Seniors	78.9	81.5	82.6

In some colleges fraternities are regarded as exerting a harmful influence. Here we believe that they are of real advantage to the University.

The plan recently adopted by the Trustees of gradually abolishing initiations of freshmen in fraternities, thus requiring them all to spend a year in the dormitory and to contribute something to the common life of the student community, will tend to prevent the objectionable features of fraternity life in some other universities from appearing here.

If this could be supplemented by the building of a Union, or University Hall, entirely for social and religious purposes, where all alike, student and professor, fraternity and non-fraternity men, could meet freely and informally the situation would be ideal. Such a building is coming to be recognized as very necessary for the best college life.

Respectfully submitted,

JAMES N. HART,

Dean of the University

REPORT OF THE DEAN OF THE COLLEGE OF AGRICULTURE

To the President of the University:

I have the honor to submit the following report of the College of Agriculture for the fiscal year just closed.

During the past year the College has again experienced a very substantial and satisfactory growth. The value of agricultural education is coming to be generally recognized and additional responsibilities are therefore placed upon the College. To foresee and to meet these responsibilities, as they arise, promptly and efficiently, is the duty of the College. Along with the increase in students has come an increased demand on the part of the farmers of the State for assistance in the solving of farm problems.

In this report the work of the College, both as relates to the teaching of resident students and to extension service, will be discussed.

STUDENT ATTENDANCE

In order that the significance of the increase in the number of students may be fully understood, statistics for the years 1907, 1909, and 1911 are herewith introduced.

Number of students registered in the various courses:

	1907	1909	1911
Four years curricula	66	115	141
Two years courses	21	43	61
Short courses	49	66	94
	<hr/>	<hr/>	<hr/>
Total	136	224	296
Percentage of gain:		64.7	32.1

Distribution of students as related to residence:

Maine—

Androscoggin county	18
Aroostook county	8
Cumberland county	27
Franklin county	6
Hancock county	6
Kennebec county	14
Knox county	8
Lincoln county	2
Oxford county	21
Penobscot county	67
Piscataquis county	4
Sagadahoc county	5
Somerset county	16
Waldo county	14

Washington county	11	
York county	13	240
Other states		56
Total		<hr/> 296

Percentage distribution of graduates from the four years and the two years courses according to present vocation:

Farming	64.8%	
Agricultural teaching and experimentation	12.5%	
State and U. S. Departments of Agriculture	4.7%	
Agricultural editors	1.5%	
Total in agricultural lines		83.5%
Business		10.9%
Professions		3.1%
Unknown		2.5%
Total		<hr/> 100 %

The above data carries with it information which has a very interesting and important bearing on the value and purpose of agricultural education. It sets forth plainly the fact that a very large proportion of the graduates of the College are making practical application of the training they have received.

DEPARTMENTS OF INSTRUCTION

With the growth of the student body the work and responsibilities of the various departments of instruction has increased proportionately. It is now evident that, within a year or two at least, extra instructors will be needed in nearly every department connected with the College. During the past year it was found necessary to employ student assistants in several of the laboratories.

The laboratories connected with the Departments of Agronomy, Bacteriology, and Biological and Agricultural Chemistry have been outgrown, and it will be necessary to make provision for accommodating a larger number of students during the next college year—either through increasing the size of the laboratories or the employment of additional teaching force. The horticultural and dairy laboratories will need to be enlarged soon.

EQUIPMENT

It has been found necessary to add materially to the laboratory equipment of the College along many lines. This is especially true of the horticultural, soil physics, dairy, and bacteriological laboratories. Such additions, however, are merely incidental, and bound to occur in any rapidly developing institution. It is unnecessary to state that the requirements in this direction will naturally increase from year to year.

SHORT COURSES

The increased attendance at the various short courses during the past year is worthy of mention. The total registration during 1911-12 was 99, representing a gain of exactly 50 per cent. These courses are offered for the benefit of persons who desire practical instruction in general agriculture, dairying, fruit growing, and poultry management, and who cannot afford the time necessary or who are not prepared to take either the two year's or four years course in agriculture. Every indication points to a continued increase in the number of persons who will take advantage of these courses.

FARMERS' WEEK

The annual Farmers' Week was instituted six years ago. It aims to give a short course of practical instruction for farmers, farmers' wives, and children. It has been enlarged to meet the needs of the people in attendance, and is now given in three sections.

The annual meeting of the Maine Federation of Agricultural Associations, an association comprising 18 of the state and county wide agricultural organizations, held its annual meeting in connection with Farmers' Week, and constituted a very interesting feature of the program. It is understood that its next annual meeting is to be held in connection with Farmers' Week. The registered attendance at Farmers' Week was 430.

EZEKIEL HOLMES TABLET

At the annual meeting of the Maine Federation of Agricultural Associations held in 1911, it was voted to establish an Agricultural Hall of Fame in connection with the College of Agriculture, University of Maine, and to place in Winslow Hall, from time to time, a tablet in honor of some person who had distinguished himself or herself in the promotion of Maine agriculture. By unanimous vote the Federation decided to install the first tablet to the memory of Dr. Ezekiel Holmes, a former resident of Winthrop, Maine.

Dr. Holmes held during his life time many important positions, including Professor of Agriculture in the Gardiner Lyceum, Editor of the Maine Farmer, and Secretary of the State Board of Agriculture. The tablet was unveiled during Farmers' Week by the Association, with appropriate ceremony, and now rests in Winslow Hall as an inspiration to all students in Agriculture and visitors to the University.

ORGANIZATION OF AGRICULTURAL STUDENTS

During the year, the Maine Association of Agricultural Students was organized. This association is composed of past and present students in the College of Agriculture. It was formed for the purpose of co-operating with the College in investigating agricultural problems, with special reference to the economic production and marketing of farm

products, of conducting coöperative demonstrations, and advancing agricultural education. It has already reached considerable proportion, and is destined to take an active part in the agricultural development of the State.

CURRICULUM FOR TEACHERS OF AGRICULTURE

Agricultural departments have been established in several of the high schools and academies of the State, and already an active demand exists for teachers who have received a thorough agricultural training.

The College of Agriculture, recognizing that a new field for men trained in scientific agriculture is now opening and that a real need exists and must be satisfied, offers a four years curriculum for the preparation of teachers in Agriculture. This curriculum leads to the degree of Bachelor of Science in Agricultural Education.

LIVE STOCK

The live stock maintained on the university farm constitutes a very important part of the laboratory equipment of the College of Agriculture. In order that breeds and types may be effectually taught the students, it is necessary that a considerable number of the various breeds of the different kinds of live stock shall be maintained on the farm. Some additions have been made by the purchase of new stock during the past year. Improvement is constantly going on and the demand for stock from the college herds and flocks which has been increasing yearly, now considerably exceeds the supply. While it seems almost imperative that the herd of cattle should be increased at once, not only for student instructional purposes, but also that the University may have an ample supply of dairy products for use in the dormitories, it is impossible to do so without enlarging the present barn accommodations. The dairy herd now comprises the four leading dairy breeds—Jersey, Holstein, Ayrshire, and Guernsey; several of these breeds should be increased in number, and in addition it appears desirable from every standpoint that as soon as possible one of the representative beef breeds should be added.

EXTENSION WORK

Extension work has now come to be recognized as an important function of the College of Agriculture. This line of work was undertaken in response to a desire upon the part of farmers for assistance in solving the problems accompanying the business of farming. Each year the farmers of Maine have used this service more and more, and consequently the extension work has grown rapidly in volume and character. Very briefly the work of the past year along this line will be reviewed:

Lectures and Demonstrations.—All members of the instructional force are available for lecture and demonstration work. During the past year 226 lectures and demonstrations were given to 20,380 people. This

represents an increase of 60 meetings and of 4400 people in attendance over last year. These meetings were held under the auspices of local and county granges, farmers' clubs, agricultural fairs, cow test and breeders' associations, poultry associations, creamerymen's and dairymen's associations, boys and girls agricultural clubs, dairy institutes, field meetings, and boards of trade.

Coöperative Experiments.—Coöperative experiments are important forms of extension service and therefore this means of extension teaching has received considerable encouragement from the College of Agriculture. During the year 1911 experiments were confined principally to variety tests of corn, oats, and alfalfa. The number of tests made was 259, conducted on 187 different farms located in every county in Maine.

Correspondence Courses.—The College of Agriculture offers correspondence courses along eleven different lines, including nearly every phase of farming and home making. Since these courses were first offered in 1903 many hundred people have taken them. During the past year 130 people were enrolled as students.

Organization of Farmers' Clubs and Coöperative Associations.—The College of Agriculture believes thoroughly in the application of coöperation in the business of farming, and aims to give every possible assistance to farmers' neighborhood clubs, boys' and girls' agricultural clubs, coöperative breeders' associations, and fruit growers' associations, and to all forms of coöperative associations organized for marketing farm products economically.

Identification of Weeds, Plant Diseases, and Insects.—During the year a large number of weeds, diseased plants, and insects were received for identification. The College is especially well equipped for giving expert advice on the identification and eradication of weeds, the control of insect pests and plant diseases. Taking into consideration the actual menace which weed infestation is fast becoming to the farming interests of Maine, it is desirable that the College through its extension service shall assist so far as possible in the solution of this problem. During the coming year a definite program of education along these lines will be undertaken.

Extension Schools.—During the Easter vacation an extension school of four days duration was held in conjunction with the agricultural department of the East Maine Conference Seminary at Bucksport. Meetings were held during the afternoon of each day. Eight members of the Agricultural Faculty participated in this school. The attendance was very satisfactory. It is planned to hold several such schools during the coming year in various sections of the State.

Publications.—A monthly bulletin entitled "Timely Helps for Farmers" was published each month during the year. The following topics were treated:

- Poultry House Construction
- Lecture Courses
- Ideas in Breeding
- Root Crops

Orchard Renovation
Diseases of Swine
Scope and Nature of Domestic Science as Taught at
the University of Maine
Chick Feeding
Reforesting Waste Land
Orchard Spraying Equipment and Spray Calendar
Animal Feeding
Lice and Mites on Fowl

The mailing list for this publication is growing rapidly and it has been found necessary to increase not only the size of the publication, but the number of copies printed.

Correspondence with Farmers.—During the year letters of inquiry were received from many thousand farmers asking for expert advice in dairying, stock raising, the growing of crops, farm management, vegetable gardening, the treatment of sick animals, farm sanitation, the construction of farm buildings; in fact every line of agricultural endeavor. This phase of extension service is growing with enormous rapidity, and it has become necessary to employ extra stenographic help in order to care for the correspondence. The College welcomes this form of extension work and is prepared to give very careful attention to every inquiry received.

General.—There is one form of extension work which ought to be undertaken at once, the demonstration farm or demonstration plot. The College of Agriculture has already been requested by two statewide associations to undertake this line of extension service, but it cannot do so to any extent with the funds available at the present time.

DEFINITE NEEDS

While I might speak of many needs which the College of Agriculture is experiencing as the result of its rapid development, there are two which on account of their very great importance should be brought specifically to your attention.

First: Cattle and Horse Barns.—The present cattle and horse barns are unsanitary; are of insufficient size to accommodate the live stock that should be kept on the university farm; are not planned for economizing labor; do not represent a type that could be recommended to the farmers of the State, and are therefore unsatisfactory for instructional purposes with the students of the College. Nearly two years ago the Maine Dairymen's Association and the Maine Live Stock Breeders' Association—having among their membership leading and progressive farmers of the State—appointed special committees to investigate the condition of the barns on the university farm. These committees visited the farm, inspected the buildings, and made reports to their respective Associations, recommending that the Associations take immediate action to secure special appropriation from the State for the purpose of such additions and such renovations to the barns as might be necessary to make them into model dairy and horse barns.

The above reports will be found in the Annual Report of the Maine Dairymen's Association printed in the 1910 report of the Maine Department of Agriculture.

Hundreds of people visit the university farm each year for the purpose of inspecting the farm buildings, and it is especially desirable from the standpoint of agricultural development in the State that they shall be able to find here model farm buildings representative of the best type in convenience, durability, sanitation, and economic construction.

Second: *Extension Work*.—The extension work of the University has grown to such magnitude that it is impossible to meet the requests for assistance now being received from the farmers and farmers' organizations of Maine without definite and ample appropriations for the purpose. Hundreds of requests were made during the past year which the College was unable to grant. The forms of service now being carried on should be extended, and new lines dealing with the multitude of practical farm problems, and for the solution of which a real need exists should be undertaken. Actual demonstrations upon the farms of Maine, conducted by the farmers themselves with the College assisting and advising, are the most important and resultful form of extension work; wherever undertaken they have resulted in increased crop production and in redirection of farming methods. A specific appropriation sufficient in amount to enlarge the present lines of extension work and to begin the demonstration farm work in a permanent way should be provided.

Respectfully submitted,

LEON S. MERRILL,

Dean of the College of Agriculture

REPORT OF THE DEAN OF THE COLLEGE OF ARTS AND SCIENCES

To the President of the University:

The College of Arts and Sciences in a university like ours has a two-fold function: (1) A large number of students who pursue technical and agricultural curricula look to this College for their general or cultural subjects. In most curricula a liberal allowance of time is devoted to subjects other than those that bear directly upon the general purpose to be accomplished. This being the case, it follows that by far the greater amount of time of the instructors in the College of Arts and Sciences is devoted to giving instruction to students in other colleges. Estimated upon this basis, this College is by far the largest in the University. (2) Apart from its obligations to the students of the other colleges of the University, the College of Arts and Sciences is chiefly concerned with the offering of courses lying along the various liberal and cultural lines designed to train students for a broad appreciation of the fundamental subjects which are by common consent regarded as essential to a liberal education. Estimated upon this basis the College is numerically small. Last year's catalog showed a registration of 196 students in the College of Arts and Sciences.

During the past year a somewhat radical change was made in the requirements for the Bachelor of Arts degree. The outline of these changes has been presented to you in a former report. The College has held faculty meetings once each month; it has conducted a general lecture course in charge of the Professor of Biology, and a similar course is being given this fall semester in the charge of the Professors of History, and Economics and Sociology; it has conducted regular meetings of the Arts Club; and has published an attractive bulletin of information to students.

NEEDS

Buildings

In making an estimate of the needs of the College of Arts and Sciences for the next two years, I have been aided by suggestions from the heads of the various departments. I find that the demand for more recitation rooms is a strong and proper one. Only four professors in this College have offices which they can use for consultation purposes. Most of the other professors have no lecture-rooms which they can command at periods when they are not using them with their own classes. The proposed science building for the Department of Physics and

Chemistry would in my judgment meet the needs of the University along this line. A general plan of arrangement need not be outlined here. It is sufficient to say that the departments, French, German, Economics and Sociology, Education, History, and Mathematics, would be materially aided by the erection of such a building.

Next to this building, the one most needed is, in my judgment, a Woman's Building, as there has been a rapid increase during the last two years in the number of women in attendance so that the Mount Vernon House is entirely inadequate for their accommodation. If a substantial Woman's Building were to be erected on the campus, it would afford tangible evidence that we are willing to give the young women of Maine an opportunity equal to that of the men.

Another building which should be provided in the near future is an Arts Building for recitation rooms, offices, etc. The Science Building mentioned above will afford only a partial relief to such departments as History, Education, French, German, and Economics. Estabrooke Hall affords a temporary relief for the crowded classes in English, but it is now over-crowded and it is reported as unsatisfactory by the head of the department.

Material Equipment

There is a large demand from the heads of the various departments for a material increase in the appropriations for department equipment. The Departments of Physics and Biology have had during recent years only an amount sufficient to carry on the necessary work of the classroom and laboratory. In order to make satisfactory progress these departments should have an appropriation of \$1000 each for the next two years. Professor Chrysler gives me a list of apparatus which would seem to be necessary for the growth of his department. So much is being done at present along the lines of radio-activity, wireless telegraphy, etc., that it would seem to be desirable that the Department of Physics in a state university should be well equipped in these subjects. If we are fortunate enough to get the desired Science Building, it will be necessary for us to make a liberal appropriation for its equipment. Some years ago an excellent start was made by Professor Huddilston along the line of an art collection. During recent years very little has been added to this collection, and it would seem that an appropriation to bring the collection up to date would be desirable. The material equipment of the Department of Latin is very weak. During the seven years that the present Professor has occupied his position nothing has been added to the department by the way of illustrative material. Maps, photographs, casts, slides, etc., are very much needed, as well as an increased appropriation for books for the department. This department is at present turning out so many teachers for our Maine high schools that it would seem to be desirable to give it as good an equipment as we are able. The Professor of English asks for \$200 for lantern slides and other illustrative material.

Books

Practically all the professors of the College agree that our present appropriation for books is entirely inadequate. \$100 to \$150 per year is the amount mentioned for most of the departments. Several heads of departments ask for a considerable sum in order to put their departmental libraries on a good working basis. The Departments of Latin, History and English are particularly urgent in making this request.

Teaching Force

In the teaching force of this College, several additional instructors have been asked for. An assistant professor for the Department of Economics and Sociology would seem to be the most necessary. This has already been mentioned in a previous report. Professor Huddilston suggests the propriety of obtaining an assistant professor of Architecture. His work together with the courses given in the Department of Greek and Classical Archaeology would form the basis of a course in Architecture which would give the student two years of the work required for a degree by such institutions as the Massachusetts Institute of Technology. For many years it has been thought desirable to secure the services of a professor of Geology when the means were available. It is somewhat unusual for a state university to be without a fully equipped department of Geology. Professor Chrysler asks for an instructor in Entomology and the increasing number of students in that department and the increased registration in his courses next year would warrant such an addition if our resources permit. Professor Segall wishes to develop the Department of Romance Languages by offering several advanced courses. This would seem to be a desirable thing to do, if the work in the elementary courses could be kept up to good grade at the same time. Professor Gray asks for an additional instructor in English, and states that the registration in his department makes this request a reasonable one. Professor A. J. Jones asks for a lecturer in Education. It is hoped that this may be arranged for along the lines we have already discussed.

Respectfully submitted,

JAMES S. STEVENS,

Dean of the College of Arts and Sciences

REPORT OF THE DEAN OF THE COLLEGE OF LAW

To the President of the University:

I beg leave to submit the following report of the College of Law covering the college year 1911-12:—

The registration of the College of Law for the past College year is 113, as against 101 at the beginning, and 107 at the end of the year 1910-1911. The men are classified as follows: Graduate Students 28, Seniors 16, Juniors 17, First Year Men 31, Special Students 21. The number of new men in the school at the end of the year was Graduate Students 1, Seniors 1, Juniors 1, First Year Men 31, Special Students 10, or 44 new men in all.

The different counties of the State were represented as follows:—Androscoggin 1, Aroostook 5, Cumberland 17, an increase of nine men as against last year, Franklin none, Hancock 4, Kennebec 4, Knox 3, Lincoln 1, Oxford 1, Penobscot 24, an increase of five, Piscataquis 1, Sagadahoc 1, Somerset 1, Waldo 1, Washington 9, York 2, or 74 men in all, an increase of twelve men over last year.

The different states were represented as follows:—Massachusetts 19, New Hampshire 5, Connecticut 3, Vermont 6, New York 2, and Illinois, Pennsylvania, California and China 1 each, making in all 39 men from outside the State of Maine.

The different colleges and universities were represented as follows:—Maine 6, Bowdoin 3, Colby 2, Bates 1, St. Mary's 2, and Dartmouth, Brown, Colgate, St. Joseph's, Kansas City University, and Oxford University, in England, by 1 each, or twenty in all, an increase of 3 over last year. There were twenty-three men that had a partial college education. Of these Maine had 11 representatives, Bates 3, Colby 2, Harvard 2, Bowdoin 1, Colgate 1, Dartmouth 1, Amherst 1, and Vermont 1, an increase of 8.

The different law schools had representatives in the College as follows: Boston University Law School 2, Ohio Northern University 1, Illinois College of Law 1, and Albany Law School 1, or five in all.

At the Commencement last June the degree of LL. B. was conferred on fifteen men, and the degree of LL. M. on two. Considering that this graduating class started with a membership of about 30 men, this fact would go to show that the standard of the College of Law has not been lowered, but has been maintained and advanced.

In the bar examinations of the State of Maine held this year in August, all the graduates of the University of Maine College of Law that took them passed successfully, without a single exception, as did

also all but one of the special students, not graduates of the College. As compared with graduates of other law schools, our men continue to maintain the high standing for which they have become noted in previous examinations.

At the end of this year one member of the faculty, an assistant professor, was made a professor in full standing, and two instructors were raised the one to the rank of associate professor and the other to that of assistant professor.

According to the vote of the Board of Trustees, graduate study *in absentia* will wholly cease two years from now, and no new applications for registration have been accepted since June 12th.

According to the recommendations made in my last report, the sale of law books at the College of Law will be taken over by the University Store some time in September. The profits, if any, are to go in aid of the athletic association.

That General Charles Hamlin's name will not soon be forgotten by the students and friends of the College of Law is evident from the fact that on the 15th of May of this year, on the anniversary of his death, a delegation of students, in the name and on behalf of the senior class, placed flowers upon the grave of their teacher and friend in Mount Hope Cemetery. A memorial article on General Hamlin appeared in the May number of the Maine Law Review. General Hamlin's place as Lecturer in Bankruptcy Law has been taken by John R. Mason, Esq., a Referee in Bankruptcy and a graduate of Harvard College and the Harvard Law School.

In the death of Forest J. Martin, Lecturer on Common Law Pleading and Maine Practice, who passed away during the spring term, the College has sustained a great loss. His lectures on Common Law Pleading have been dedicated by his widow, Mrs. Clara J. Martin, to the University of Maine College of Law. The profits accruing from their publication, if any, are to be used for the benefit of the Maine Law Review.

The Maine Law Review, the law magazine published by the student body of the College of Law, has completed the fifth year of its existence. It continues to improve in quality and to gain in reputation.

In the death of Honorable Henry Bradstreet Cleaves, of Portland, a former governor of our State, the Advisory Board for the College of Law has lost one of its most prominent members. His death, and that of General Charles Hamlin, have created two vacancies on the Board, to be filled by the Trustees at their next meeting.

The purchase of the Law Building by the Board of Trustees has been the most notable event in the history of the College of Law. This purchase has also created the greatest need of the College: the discharge of the obligation incurred, and the acquisition of this beautiful property free from debt of any kind.

Respectfully submitted,

W. E. WALZ,

Dean of the College of Law

REPORT OF THE DEAN OF THE COLLEGE OF TECHNOLOGY

To the President of the University:

I have the honor to present herewith my annual report of the College of Technology for your consideration.

This College offers curricula in Chemistry; Chemical, Civil, Electrical, and Mechanical Engineering, and Pharmacy. The Department of Mechanics and Drawing, containing required engineering courses, also belongs in this College. It is of interest to note the establishment of these curricula. Chemistry, Civil, and Mechanical Engineering are nearly as old as the University, while Electrical Engineering and Pharmacy were established in 1894, and Chemical Engineering in 1907. The faculty of this College numbers 23, of whom 12 are of professional rank. Instruction has been given during the year by this faculty to over 1500 students in the various courses making up the curricula. The number receiving the Bachelor's degree last June was 50.

During the past year, the work of perfecting the College as an organized unit of the University has been carried forward with success. Although excellent work has been done in previous years when each department was acting more or less independently, the present scheme of coöperation will surely result in much better economy and a pronounced improvement in the work.

Last spring the College edited a bulletin of 44 pages which was published by the University, through which an endeavor was made to place before the young men in fitting schools the true meaning of a technological education, and to make clear to them some of the points about which there has been so much haziness in the past. Many young men pursue an engineering curriculum because there is a certain glamour or mystery about it which is attractive, without understanding for what the different curricula stand.

Not only does the high school student have peculiar ideas of a technical education, but the people of the State, as a rule, have many erroneous views. The University exists for the people; the maximum efficiency cannot be obtained without coöperation between the people and the University. It is mainly the fault of the institution that there exists any mystery about our work and it should be one duty of the faculty to correct such fallacies. This can be accomplished in a small way by lectures and talks before clubs as well as in our everyday life, but a more effective way is by an organized effort in developing extension work. In this way we not only show the people the educational side of our institution, but we assist them in solving their engi-

neering problems and show them the meaning of expert advice. Two points must, however, be considered. Our first duty is to the student and he must not be neglected. Neither should we usurp the rightful business of others. These two difficulties will surely appear and if not carefully controlled they will work much harm. The first objection may be obviated by providing a faculty sufficient in size to meet the demand. The second may be controlled by a judicious handling of the problems which arise, with a careful decision of where our services end and those of others begin. If properly administered, this will result in an increased demand for the technical expert which will mean increased business for engineers and chemists throughout the State.

During the year, an organized effort has been made to get in closer touch with the graduates of the College. This has taken the form of an employment and statistical bureau. Much interest has been shown by the New York alumni who have given their assistance to the undertaking. Letters have been sent to about 1000 graduates and their replies have been hearty and full. A branch of the bureau is already in existence in New York City, and it is expected to establish branches in other cities during the coming year.

Much has been accomplished by the student organizations, comprising the Civil Engineering Society, and the Mechanical and Electrical Society. Trained men have been obtained from away to lecture to these bodies and much interest has been shown by the students in these meetings. In general these men have come to us for no fee other than their expenses, and usually these expenses have been borne by the students.

A number of the faculty of this College have attended scientific meetings during the year in New York, Boston, Chicago, and other centers. This is creditable and the custom should be encouraged. Another field of work which needs encouragement is the writing and publication of scientific papers, containing results of tests and investigations carried on by the different departments.

The work of the College has always been retarded owing to lack of funds for instructors and equipment. It is only by the most strenuous efforts in each department that a high quality of work has been maintained. Extra hours have been necessary by all the faculty, and make-shifts for equipment have been in constant use. We have arrived at a critical point in our history where it seems impossible to advance further without much new equipment for all departments. So many institutions are spending immense sums upon buildings and their equipment that our position will rapidly fall behind unless we are given the support necessary to keep our faculty and equipment up to the standard. A first class professional man will not stay long where he is prevented from doing first class work by lack of the necessary facilities.

The crowded condition of the three buildings in which this College is housed is such as to demand relief. Lord Hall contains the two departments of Electrical and Mechanical Engineering. The building is poorly designed for laboratory and testing space. All of the engineering curricula demand a building suited to this work and it is essential

that such space should be provided. The head of the Department of Mechanical Engineering has perfected plans for a unit building to contain laboratories and testing machinery, and it is hoped that in the near future such a building may be provided. This would insure the beginning of an engineering experiment station which would be invaluable to this College and to the State.

The Electrical Engineering Department needs much apparatus to equip a standardizing laboratory for the purpose of carrying on standard electrical engineering tests. Also much of the equipment in its general laboratory is old and not up-to-date. It will be necessary to spend several thousand dollars here if we are to bring the students in touch with practical commercial apparatus of the day and keep the laboratory up with the latest practice.

The State of Maine is noted for its water power and ranks third in the Union for developed power. It is possible to develop nearly three times as much, hence the question of hydraulic development is a vital one in the development of our State. A hydraulics laboratory should be provided, consisting of a power house equipped with the necessary machinery, for the use of the engineering departments. This should be located upon its power site and be under the direction of an experienced hydraulic and electrical engineer. It is worthy of note that such a plant could easily be made second to none in the country and would be used not only for instructional and experimental work, but would become of much value in commercial testing.

Respectfully submitted,

HAROLD S. BOARDMAN,

Dean of the College of Technology

REPORT OF THE LIBRARIAN

To the President of the University:

During the two-year period covered by this report, the increase in the General Library has been 4,697 volumes, the Law Library 187, and the Maine Agricultural Experiment Station Library 433, a total of 5,317, making the record stand, on June 30, 1912, General Library 40,624, Law Library 3,482, and Station Library 3,594, an aggregate of 47,700.

It may be of interest at this time to call attention to the fact that when the present Librarian began his duties, in 1897, the total number of volumes was 10,548. Although there have been some fluctuation in the rate of growth, it has been constant and on the whole gradually increasing. In 1897-8 it was 2,008; by two-year periods since, the growth has been as follows: 1898-1900, 4,409; 1900-2, 4,316; 1902-4, 3,981; 1904-6, 3,921; 1906-8, 7,096; 1908-10, 5,307; 1910-12, 5,317; total 1897-1912, 37,152.

The increase in the use of the Library has kept pace with its growth and that of the number of students and faculty. It has been noticeably greater the past year than ever before.

Last fall the Librarian talked to five divisions of the freshman class twice a week for four weeks on the use of the Library. As most freshmen have almost no knowledge of this subject, such talks seem necessary.

GENERAL LIBRARY

Of the 4,697 volumes added to the General Library in 1910-12, 1,666 were secured by purchase, 819 by binding, and 2,212 by gift. The cost of the purchases was \$3,305.19 and of the binding \$583.60.

The division of the purchases by departments was as follows; College of Agriculture (including its nine departments), 252 volumes, \$431.71; Bibliography, 28, \$101.80; Biology, 47, \$154.69; Chemistry, 49, \$129.05; Civil Engineering, 61, \$205.96; Economics and Sociology, 70, \$117.07; Education, 140, \$179.49; Electrical Engineering, 42, \$153.75; English, 302, \$340.83; German, 45, \$57.34; Greek and Classical Archæology, 18, \$41.48; History, 91, \$142.68; Latin, 22, \$77.92; Mathematics and Astronomy, 37, \$67.99; Mechanical Engineering, 46, \$160.31; Mechanics and Drawing, 26, \$45.24; Military Science and Tactics, 0; Pharmacy, 0; Philosophy, 50, \$86.66; Physical Culture and Athletics, 3, \$5.51; Physics, 30, \$81.52; Romance Languages, 84, \$86.69; General and Miscellaneous, 133, \$317.43; Reference, 62, \$313.98.

The cost of our periodical subscriptions for two years has been \$1,534.43. The number and cost by departments for 1911-12 was as follows: College of Agriculture, 23, \$43.35; Bibliography, 7, \$15.00; Biology, 14, \$77.70; Chemistry, 13, \$77.01; Civil Engineering, 5, \$15.45; Economics and Sociology, 8, \$23.55; Education, 7, \$16.25; Electrical Engineering, 7, \$29.85; English, 2, \$5.25; German, 4, 1-2, \$24.07; Greek and Classical Archæology, 4, \$11.13; History, 3, \$14.80; Latin, 4, \$11.12; Mathematics and Astronomy, 6, \$19.65; Mechanical Engineering, 9, \$32.45; Mechanics and Drawing, 0; Military Science and Tactics, 3, \$8.25; Pharmacy, 7, \$10.82; Philosophy, 10, \$36.70; Physical Culture and Athletics, 2, \$3.60; Physics, 5, \$31.55; Romance Languages, 2 1-2, \$10.58; General and Miscellaneous, 74, \$246.56. The total number of periodicals subscribed for is 220, and of those received by gift about as many.

The list of individuals who have made gifts during the last two years is too long to give here. The largest and most valuable gift we have ever received was the horticultural library of the late Professor Welton M. Munson, Professor of Horticulture and Horticulturist in the Experiment Station from 1891 until 1906. This came to us in accordance with a provision of his will. Another gift of special importance was from Nathan C. Grover, class of 1890, consisting chiefly of civil engineering works. Other individuals whose gifts require special mention are President R. J. Aley, Director C. D. Woods, and Mrs. A. M. Graves of Orono. As a designated depository, we have continued to receive all publications of the United States Government included in the depository series. We have continued to receive also the publication of the State of Maine, through the State Library, and of the states of Connecticut, Ohio, and Michigan, through their State Libraries, in accordance with an exchange system arranged by the late Hon. L. D. Carver while State Librarian of Maine.

Two deposits of book have been made in the Library, although in neither case has the title passed to us. These are the mathematical library of President Aley, and a considerable portion of the library of Professor Horace M. Estabrooke, class of 1876, who was Professor of Rhetoric and Modern Languages here from 1891 until 1895 and of English from 1895 until his death in 1908. The Aley Library has been completely cataloged and the Estabrooke Library partially so; it is hoped this work will be completed soon.

LAW LIBRARY

The Bangor fire of April 30, 1911, destroyed the Exchange Building, in which the College of Law was located. The Law Library, with the exception of six volumes which were temporarily in the hands of members of the faculty, was totally destroyed. Strenuous efforts to save it were made by eleven students who succeeded in carrying some of the most valuable sets from the sixth floor, where the books were, to a vault on the second floor. They worked until the exits were choked by fire and several of the number had to jump from windows in order

to escape the flames. Faulty construction of the vault resulted in the destruction of its contents, but the effort by the students to save the books is none the less deserving of grateful recognition.

The Law Library was well insured, and from the insurance the Librarian was authorized by the President and Treasurer to expend \$7,887.06 in the purchase of a new library. The needs of the College were carefully considered by the law faculty and their recommendations were carried out in full. Special fire prices were made by the Lawyers Coöperative Publishing Company, the West Publishing Company, and the publishers of all other sets destroyed which had been bought directly from the publishers. Very advantageous prices were obtained on the miscellaneous sets and text books. As a result, there was purchased a better library than that destroyed, the expense being kept under the amount authorized. The new library was catalogued and installed in the new quarters of the College so that it was ready for use at the opening of the fall term of 1911.

Of the 3,482 volumes now in the Law Library, 2,914 have been secured by purchase and 568 by gift. Following the fire, gifts were received from the Boston University, Harvard, and John Marshall law schools and the American Bar Association. General Thomas H. Hubbard of New York sent a check for one hundred dollars which was used toward the purchase of a set of Federal Cases. Within the last year, a gift of over a hundred volumes has been received from Eliot N. Jones, Esq., of Boston, a native of Bangor. Hon. L. C. Southard of Boston has continued to turn over to the Treasurer of the University the honorarium received by him for his services as Lecturer on Medico-Legal Relations. A portion of the amount on hand is to be used in payment for a set of English Ruling Cases that has been ordered.

MAINE AGRICULTURAL EXPERIMENT STATION LIBRARY

No details of the Station Library other than the figures relating to its growth are given in this report. The books received by it are recorded and cataloged in the General Library and supervision is exercised over binding and periodical records. Neither the orders given nor the bills go through the Librarian's hands. As a result, there is an occasional duplication of books by the Station and the General Libraries, but this is not serious. During the last year a duplication in periodicals has been discontinued.

NEEDS

The General Library should have for the next two years not less than five thousand dollars a year for books, periodicals, binding, and necessary supplies. This does not include salaries or the amount required for physical equipment and maintenance. The sum named will allow two thousand dollars a year for periodicals, binding, supplies, and reference and other general and miscellaneous books, and an average of a hun-

dred dollars a year for each of our thirty departments of instruction to be used for current books and others required.

Additional stacks will be required within the next two years and should be installed within a year. If built of the same materials and in the same style as those in the present stacks they can be placed in the stack extension when built. They can be placed temporarily in the club room, or one of the other large rooms, and later transferred, so as to restore the room taken to its original use. Such stacks will cost in the neighborhood of seven hundred and fifty dollars.

The needs of the Law Library will be cared for by a continuation of the assignment of that portion of the tuition charge for the purchase of books which is now authorized by the Trustees. There is, however, need of the appointment of a regular assistant who shall be in immediate charge, under the direction of the Librarian.

Respectfully submitted,

RALPH K. JONES,

Librarian

REPORT OF THE PROFESSOR OF PHYSICAL CULTURE

To the President of the University:

I have the honor to submit my report as Professor of Physical Culture and Director of Athletics.

We have endeavored during the past year to improve the Physical Culture Department of the University. In the past, physical training has been required of freshmen only, and consisted of three hours a week gymnasium work. We now have three hours a week gymnasium work and a one hour a week lecture (practical hygiene) for all freshmen, and have an elective course of three hours gymnasium work a week and two hours a week lectures. One hundred and seventy-five first year students were registered for work in this Department, and thirty-five upper classmen took advanced work.

The University was fortunate in athletics the past year, winning State championships in football and baseball, and losing in track only by a few points. A cross country race was won from Tufts College in the fall, and a dual meet with Colby in the Spring.

The work of the department would be greatly improved if a suitable drill hall could be erected for military purposes, thus giving the Gymnasium for physical work only. A swimming pool also would be of great help to the Department.

The time is not far distant when the University of Maine should have a four-year course in Physical Culture. Cities and public schools are demanding men trained in this line of work. With the additional help of an assistant, such a course could be established at the University of Maine.

Respectfully submitted,

E. R. WINGARD,

Professor of Physical Culture and Director of Athletics

REPORT OF THE DIRECTOR OF THE MAINE AGRICULTURAL EXPERIMENT STATION

To the President of the University:

In addition to the work of investigation of all agricultural experiment stations, the Director of the Maine Station is charged by law with the enforcement of the laws regulating the sale of agricultural seeds, apples, commercial feeding stuffs, commercial fertilizers, drugs, foods, fungicides and insecticides, and with the calibration of creamery glassware. Because of this it is necessary to organize the Experiment Station in two distinct divisions,—one having to do with the work of inspection, and the other with the work of investigation. Outside of the executive office these two general divisions of the Station do not overlap.

THE WORK OF INSPECTION

During the year the inspectors have visited a large percentage of the places of business of people engaged in the manufacture and sale of articles coming under the requirements of the laws. A sanitary inspection has been made of many hundreds of stores, manufacturing establishments, bakeries, hotel and restaurant kitchens, etc. Many very unsatisfactory conditions have been found, but these for the most part have been cleaned up without prosecution. The unsanitary conditions were for the most part due to ignorance or to carelessness and the majority of the owners have complied not only willingly but have apparently accepted the criticisms as helpful to their business rather than injurious. The analysts have examined many hundred samples during the year. The "Official Inspections" of the year give in considerable detail the report of the work of inspection.

THE WORK OF INVESTIGATION

The work of investigation is divided into the Departments of Biology, Entomology, and Plant Pathology. Within the limits of this report it is possible only to briefly catalogue the more important lines of work in the departments.

Biology. The following titles of publications indicate the work which has been completed during the year:

Biometric Ideas and Methods in Biology: Their Significance and Limitations; Inheritance of Fecundity in the Domestic Fowl; The Mendelian Inheritance of Certain Chemical Characters in Maize; An

Accurate Method for Determining the Weight of the Parts of the Eggs of Birds; Biometric Arguments Regarding the Genotype Concept; The Personal Equation in Breeding Experiments Involving Certain Characters of Maize; On the Accuracy of Trapnest Records; A Note on Certain Biometrical Computations; Breeding Poultry for Egg Production; Poultry Diseases and Their Treatment; A Note Regarding Variation in the Single Combs of Fowls; Some Recent Studies on Variation and Correlation in Agricultural Plants; Opportunities for Corn Breeding in Maine; Poultry Notes.

The work in breeding with field corn and with sweet corn is continued. Breeding work with oats, including variety tests of many varieties, and the isolation and propagation of pedigreed strains of oats, is continued.

The poultry work of the Department of Biology attracts more attention than any other line of work which the Experiment Station is engaged upon. The work of breeding for egg production has continued through the year with results which are highly satisfactory. The system of breeding, based on the ability of the birds to transmit high laying qualities to their offspring rather than on performance alone, continues to bear out the promise of good results. A study of the factors concerned in egg production affecting the size, color, and shape of eggs, and the part played by each portion of the oviduct in the formation of the egg, has been continued. Extensive experiments in making reciprocal crosses between Barred Plymouth Rock and Cornish Indian have been continued through the present season. This line of work is yielding results of great interest and importance in regard to fundamental laws of inheritance and for the foundation of practical breeding work in general.

Maine stands fourth among the states in bean production. One of its most valuable products is the old-fashioned yellow-eyed bean, but growers of this bean say that it is impossible to get a strain of seed which uniformly breeds true, and at the same time is resistant to disease. An experiment is in progress to see if it is not possible with the application of modern scientific principles of breeding to isolate a strain of old-fashioned yellow-eyed beans which shall have the power of breeding true indefinitely.

In connection with the work of the Department of Biology both in plant breeding and in poultry investigations, a large amount of data has been accumulated. These results are being put into shape for publication as rapidly as possible.

Entomology. The following publications have been issued by this Department:

Macrosiphum destructor and *M. solanifolii* (two species of plant lice enemies of the potato and the pea); Insect Notes for 1911; Fungus Gnats, Parts III and IV (dealing with a family of small flies whose maggots injure mushrooms); Notes on *Psyllidae* or "Jumping plant-lice" (sucking insects which injure plants in much the same way as aphids).

The investigations of the Aphidae (plant lice); fungus gnats; studies of the earlier stages of Diptera (two-winged flies) with special reference to the economic species such as maggots infesting the apple, potato, and cabbage beetles, etc.; the comparison of two very destructive plant lice, the pea aphid and the potato aphid, are in progress. The work of a popular nature being carried out has to do with the insects injurious to potatoes and garden crops, parasitic and other beneficial insects, and insects injurious to forest and shade trees. The work of a more technical nature includes the study of a native parasite destructive to injurious insects in Maine; tests of poison bait for the adult of the railroad worm; food plant tests and breeding experiments with plant lice; work upon the Psyllidae or jumping plant lice.

In addition to this, the Department is giving special attention to remedial measures for the wire worm and the potato flea beetle.

Plant Pathology. The publications of the year include:

Control of Blackleg; Disease of the Potato; Inoculation Experiments with Fungi from Diseased Leaves and Wood of the Apple; Investigations on the Prevalence, Distribution and Methods of Treatment of Various Important Maine Apples; a bulletin describing an apple rot caused by a new fungus which belongs to a class not before reported in America. Work which is completed and awaiting publication includes an apple disease caused by the genus *Fusarium*.

The main lines of investigation are confined to the apple and the potato. Considerable additional data have been obtained on the extent and distribution of plant diseases in the State. Work is being continued along the lines of orchard diseases, potato scab, and technical studies of bacteria association with potato soft rot and blackleg. Studies of the relation of different species of *Fusarium* which are known to cause diseases of plants, cause and methods of prevention of Baldwin spot on apples, cane blight of the raspberry, and root and stem diseases of ornamental plants such as snapdragon, aster, phlox, stock, etc., which have become very serious and destructive in the gardens of some of the summer residents of the State, are in progress.

Dr. Morse, the head of the Department, spent the college year at the University of Wisconsin at work upon some of the problems named above.

This Department is at work upon a complete and comprehensive bulletin on the potato diseases of Maine.

Highmoor Farm. It was with some misgiving that the committee appointed by the legislature of 1909 to select a farm for the Maine Agricultural Experiment Station invested all of the appropriation in a farm, without leaving anything for its equipment. For the first two years it was necessary to expend money in the development of the orchard, without hope of immediate return. It is a decided relief to see the indebtedness cleared up by the large crop of apples which was produced in 1911. This seems to make clear that the judgment of the purchasing committee was sound when it put all of the appropriation into that farm rather than into a lower priced one where part of the

appropriation could be used in equipment, and that the Experiment Station can make good and did make good on a proposition of this kind, and, most important to the State, it shows the possibility of Maine's neglected orchards when properly handled.

The farm when purchased cost \$10,000 and could be readily sold now for \$15,000. The crops sold from the farm have been sufficient to pay not only the running expenses (exclusive of experimental work), but for the development and improvements as well. It affords ample facilities for the work in orcharding and in plant breeding. Also it has been possible to undertake a series of experiments on culture with such crops as potatoes, oats, corn, and grain, extending over a term of years, which promise to give results of considerable practical importance to Maine farmers.

In addition to being a laboratory for the biologists, entomologists and plant pathologists, Highmoor farm is used as a place to study orchard and crop problems.

The orchard investigations are planned by a committee consisting of the Director, the Biologist, and the Plant Pathologist. The field experiments are planned by the Director. The details of the experiments are carried out by the Farm Superintendent and the Orchardist.

Orchard Investigations. The following publications have been issued during the year: Orchard Spraying Experiments; Two Years Work at Highmoor Farm; Orchard Notes.

The experimental work comparing culture versus pasturage, on orchard renovation, comparison of organic manure with commercial fertilizers in orchards, spraying experiments with fungicides and insecticides, experiments dealing with the relation of stock and cion on grafted trees, work in apple breeding, a test of highly nitrogenous fertilizers for orchards, and a study of the direct effect of fertilizers upon the apple crop are the more important lines that are continued.

Field Experiments. Five year rotation experiments comparing commercial manure and farm manure for sweet corn, and a comparison of the effect of sweet corn and other crops grown with and without farm manure as preceding seeding with oats and grass are in progress. Potato cultural experiments and potato fertilizer experiments and top dressing experiments on grass are continued.

The Annual Report of the Maine Agricultural Experiment Station, which includes the Bulletins and Official Inspections, aggregates several hundred pages and contains an account of the work which has been completed.

Respectfully submitted,

CHAS. D. WOODS,

Director of the Maine Agricultural Experiment Station

28B
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The Maine Bulletin

Entered at the post office at Orono as second class matter

Vol. XVI

University of Maine, Orono, Maine, September, 1913

No. 1

ANNUAL REPORT

of the

UNIVERSITY OF MAINE

For the Year Ending June 30, 1913



Reports of the Trustees, Treasurer, President
Deans, Director, Librarian, Professor of
Military Science, and Professor of
Physical Culture

ANNUAL REPORT

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS
28 JUL 1914

OF THE

UNIVERSITY OF MAINE

FOR THE YEAR ENDING JUNE 30, 1913

REPORTS OF THE TRUSTEES, TREASURER, PRESIDENT
DEANS, DIRECTOR, LIBRARIAN, PROFESSOR OF
MILITARY SCIENCE, AND PROFESSOR OF
PHYSICAL CULTURE

Published for the University
SENTINEL PUBLISHING COMPANY
WATERVILLE, MAINE
1913

CONTENTS

Report of the President of the Board of Trustees	5
Report of the Treasurer of the University	6
Report of the President of the University	16
Report of the Dean of the University	18
Report of the Dean of the College of Agriculture	19
Report of the Dean of the College of Arts and Sciences	21
Report of the Dean of the College of Law	23
Report of the Dean of the College of Technology	25
Report of the Librarian	26
Report of the Professor of Military Science and Tactics	27
Report of the Professor of Physical Culture	28
Report of the Director of the Maine Agricultural Experiment Station	29

REPORT OF THE PRESIDENT OF THE BOARD OF TRUSTEES

To the Honorable Governor and Council:

The Trustees of the University of Maine beg to submit their annual report, and in doing so take this occasion to state that the institution was never more prosperous than during the year just closed.

The Legislature at its last session made needful appropriations, not only for the running expenses of the University, but for the erection of two much needed buildings, a physical-chemical laboratory, and one wing of a women's dormitory. The foundations for these buildings will be put in during the present fall, and the whole completed for occupation in season for the fall term in 1914.

New walks have been laid and the campus generally improved.

The resignation of Gov. Haines from the Board of Trustees was a distinct loss to the University, though his place has been ably filled by Mr. William A. Martin, of Houlton, whom the Governor appointed to fill the vacancy.

The President and Faculty are working in harmony and with much zeal for the welfare of the University, and the fruits of their labor are being felt and appreciated by the people of the State.

The prejudice that once existed in certain localities against the institution has entirely died out as our people have become familiar with the good work it is doing, and in its place has sprung up a state-wide pride in the University of Maine, as the head of our public educational system. The limit to its future growth and usefulness would be difficult to predict.

Respectfully yours,

S. W. GOULD,

President of the Board of Trustees

REPORT OF THE TREASURER OF THE UNIVERSITY OF MAINE FOR THE FISCAL YEAR ENDED JUNE 30, 1913

ASSETS

Trust Fund Investments:

Coburn Trust Fund	Schedule A	\$100,000 00	
U. S. Land Scrip Fund	Schedule A	118,300 00	
The Levi M. Stewart Fund	Schedule A	20,000 00	
Nehemiah Kittredge Loan Fund	Schedule B	1,314 76	
Kidder Scholarship Fund	Schedule B	750 00	\$240,364 76
<hr/>			
Lands and Buildings	Schedule C		535,844 43
Inventories	Schedule D		207,569 02
Accounts receivable	Schedule E		10,172 61
General Appropriation, State of Maine	Schedule F		30,343 10
Bills receivable	Schedule G		3,963 78
Cash on hand, June 30, 1913	Schedule H		1,025 16
			<hr/>
			\$1,029,282 86

LIABILITIES

Trust Funds:

Coburn Trust Fund		\$100,000 00	
U. S. Land Scrip Trust Fund		118,300 00	
Nehemiah Kittredge Loan Fund		1,314 76	
The Levi M. Stewart Fund		20,000 00	
Kidder Scholarship Fund		750 00	\$240,364 76
<hr/>			
Bills Payable	Schedule I		40,750 00
Accounts Payable	Schedule J		34,415 45
Surplus			713,752 65
			<hr/>
			\$1,029,282 86

SCHEDULE A—ASSETS

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of

the State of Maine, dated Feb. 5, 1889, due July 1, 1917, bearing interest at 4% per annum, of the par value of..... \$100,000 00

United States Land Script Trust Fund Investment:

Under the provisions of An Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has realized an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1889, due June 1, 1915, bearing interest at 5% per annum, of the par value of..... \$118,300 00

NOTE: All of the foregoing described bonds are deposited with the Treasurer of the State of Maine.

The Levi M. Stewart Fund Investment:

This represents a fund received from Hon. David D. Stewart, executor and residuary legatee of Levi M. Stewart, late of Minneapolis, Minnesota, and amounting to \$20,000 00

This fund is deposited in the savings department of the Merrill Trust Company, Book No. 1826.

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge, of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same, loans are made to needy students in the three upper classes. It is now invested as follows:

Twenty-four promissory notes, signed by present and former students of the University, and aggregating, exclusive of accrued interest.....	\$1,244 98
On deposit in Bangor Savings Bank, Book No. 45602....	69 78
	\$1,314 76

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, of Denver, Colorado, class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, and amounting to	\$750 00
--	----------

This fund is on deposit in the Bangor Savings Bank, as per Deposit Book No. 45603.

SCHEDULE C—ASSETS.

Lands and Buildings:

Alumni Field, structures only	\$1,000 00
Alumni Hall	31,979 80

Campus and Farm Lands	11,000 00
Carnegie Library	50,985 06
Coburn Hall	28,203 80
Estabrooke Hall	6,000 00
Faculty Houses	26,235 65
Farm Buildings	25,230 14
Fernald Hall	30,000 00
Fernald Hall Annex	1,378 70
Hannibal Hamlin Hall	55,707 62
Heating Plant	56,664 97
Horticultural Building	2,500 00
Infirmary	700 00
Janitor's House	1,000 00
Kappa Sigma House	5,400 00
Law School Building (Bangor)	33,750 00
Locomotive House	200 00
Lord Hall	38,337 48
Mount Vernon House	3,500 00
Oak Hall	40,000 00
Observatory	500 00
Old Pumping Station	1,200 00
Power House	1,000 00
Stand Pipe and Fixtures	1,000 00
Stock Judging Pavilion	4,292 46
Store House	500 00
Store House	500 00
Sigma Nu House	3,500 00
Waiting Room	226 97
Wingate Hall	25,143 93
Winslow Hall	45,207 85
Woodward Farm	3,000 00
	<hr/>
	\$535,844 43

SCHEDULE D—ASSETS

Inventories:

Advertising	\$370 01
Biology	8,191 09
Care of Buildings	30 00
Commencement	267 31
Chemistry	11,175 76
Civil Engineering	7,510 70
Commons	1,458 83
College of Agriculture:	
Postage, Printing and Stationery	753 38
Sundry Supplies and Miscellaneous	470 02
Equipment	10,589 28

Cows	4,263 00
Horses	1,845 00
Poultry	628 85
Other Live Stock	931 00
Feed	499 47
Home Economics	1,162 04
Bacteriology and Veterinary Science	2,631 95
Biological and Agricultural Chemistry	940 30
Diplomas	370 01
Economics and Sociology	45 00
Electrical Engineering	6,953 15
English Language	220 00
Forestry	1,008 96
Furnishings and Fixtures	8,190 75
Greek	1,463 05
Hannibal Hamlin Hall	3,047 99
History	105 45
University Inn	2,429 30
Insurance	5,705 77
Latin	95 10
Laundry	296 15
Law School	1,330 25
Law Library	9,297 81
Library	55,531 13
Locker Account	612 00
Mathematical Science	4,271 25
Mechanical Engineering	21,324 35
Mechanics and Drawing	948 00
Military Science	330 79
Mount Vernon House	1,506 97
Museum	10,717 24
Oak Hall	175 00
Office Supplies and Postage	412 22
Pharmacy	257 78
Philosophy	324 25
Physical Training	1,651 00
Physics	7,468 68
Power, Heat and Light:	
Coal	4,754 55
Supplies	1,115 81
Repairs to Buildings	1,613 60
Water Supply	277 67

\$207,569 02

SCHEDULE E—ASSETS

Accounts Receivable:

This account represents funds due the University as follows:

Students' Accounts	\$6,551 60
Other General Ledger Accounts	3,621 01
	<hr/>
	\$10,172 61

SCHEDULE F—ASSETS

State of Maine, General Appropriations:

Amount due the University under the provisions of Chapter 99 of the Resolves of the State of Maine for the year 1913, and unpaid	\$30,343 10
--	-------------

SCHEDULE G—ASSETS

Bills Receivable:

Represents notes held by the University as follows:

Seventy-three (73) promissory notes signed by present and former students, given in settlement of tuition fees, term bills, etc., and aggregating	\$1,713 78
Three (3) promissory notes, given by Building Associations	2,250 00
	<hr/>
	\$3,963 78

SCHEDULE H—ASSETS

Cash Balance, June 30, 1913:

On deposit, Merrill Trust Company, Bangor, Maine....	\$8 87
On deposit, Eastern Trust & Banking Company, Old Town, Maine	67 14
Cash at office (Cash Drawer)	949 15
	<hr/>
	\$1,025 16
Cash on hand, June 30, 1912	\$882 75
Total receipts for year	342,676 26
	<hr/>
	\$343,559 01
Less total disbursements for year	342,533 85
	<hr/>
	\$1,025 16

SCHEDULE I—LIABILITIES

Bills Payable:

Law School Building Notes—

Edwin G. Merrill, New York, Due Sept. 1, 1913	28,750 00
Merrill Trust Co., Bangor, Demand	5,000 00

 \$33,750 00

Notes given for general purposes—

Merrill Trust Co., Bangor, Due July 15, 1913	7,000 00
--	----------

 \$40,750 00

SCHEDULE J—LIABILITIES

Accounts Payable:

Audited Vouchers	\$30,223 44
Key Deposit Account	55 00
Thesis Binding	44 25
Maine Agricultural Experiment Station	4,084 76
Recreation Room Subscriptions	8 00
	<hr/>
	\$34,415 45

STATEMENT SHOWING INCOME FROM ALL SOURCES

Income from Students:

Registration fees	\$7,025 00	
Tuition fees, General	\$17,773 50	
Tuition fees, College of Law	5,249 94	23,023 44
	<hr/>	
Incidental fees	13,775 00	
Special fees for Laboratories, Degrees, Etc.	755 62	
For Dormitories	5,237 69	\$49,816 75

Income from Investments:

Endowments for general purposes (Coburn)	4,000 00	
Rents	2,352 04	6,352 04

Income from Grants by State and Nation:

State:

Appropriation for current expenses and buildings	106,500 00
--	------------

Federal Aid:

Income from Land Grant—Act of July 2, 1862	5,915 00
--	----------

Additional endowments—Acts of Aug. 30, 1890, and March 4, 1907			50,000 00	162,415 00
			<hr/>	

Income from Departments:

Law Library	\$758 31	
Mechanics and Drawing	15 51	
Museum	10 00	
English Language	79	
Biology	540 62	
Physics	129 06	
Home Economics	413 57	
Biological and Agricultural Chemistry	25 57	1,893 43
		<hr/>

Income from Other Sources:

College of Agriculture, Sales	\$11,212 22	
Board of Students, Summer Term, 1912...	76 04	
Horses	380 00	
Cows	75 00	11,743 26
		<hr/>
		\$232,220 48

STATEMENT SHOWING TOTAL EXPENDITURES

Salaries:

Salaries of Officers	\$9,425 00	
Salaries of Instructors	81,097 30	\$90,522 30
		<hr/>

Administration Expenses:

Printing Reports and Bulletins	\$1,175 72	
Advertising	580 33	
Clerk Hire	4,081 78	
Commencement	367 55	
Freight and Express	952 79	
Office Supplies and Postage	2,169 28	
Telephone and Telegraph	514 04	
Traveling Expenses	1,270 19	
Interest and Discount	1,025 32	
School Inspection	174 99	
Miscellaneous	410 31	12,722 30
		<hr/>

Maintenance of Property:

Repairs to Buildings	\$7,575 71
Care of Buildings	5,291 35
Furnishings and Fixtures	1,646 19

Insurance	1,730 67	
Athletic Field	49 52	16,203 44
		<hr/>

Power, Heat and Light:

Labor	\$3,201 94	
Repairs	104 65	
Supplies	2,367 63	
Electricity	1,939 85	
Coal	8,052 17	
Freight and Express	123 82	15,790 06
		<hr/>

Department Expenses:

Civil Engineering	\$420 44	
Electrical Engineering	535 83	
Law School	9,851 60	
Library	1,556 33	
Mathematical Science	1 80	
Mechanical Engineering	459 30	
Military Science	306 90	
Physical Training	499 07	
History	5 55	
Philosophy	23 50	
Chemistry	1,822 82	
Pharmacy	1 83	
Shop	55 15	15,538 12
		<hr/>

House Charges:

University Inn	\$115 73	
Mount Vernon House	15 02	130 75
		<hr/>

College of Agriculture:

Salaries of Instructors	\$20,810 27	
Pay of Employees	9,872 73	
Equipment	1,785 32	
Poultry	123 90	
Other Live Stock	47 00	
Feed	4,147 27	
Fertilizer, Seeds, etc.....	846 90	
Sundry Supplies and Miscellaneous	1,800 08	
Repairs	16 71	
Traveling Expenses	1,046 53	
Postage, Printing and Stationery	827 00	
Freight and Express	515 74	

Bacteriology and Veterinary Science	9 94	
Farmers' Week	204 13	
Forestry	305 26	42,358 78
	<hr/>	

Sundry Accounts:

Summer Term—1912	\$1,294 00	
Prizes	60 00	
Water Supply	3,243 47	
Profit and Loss	130 00	4,727 47
	<hr/>	
		\$198,083 22
Surplus		34,137 26
		<hr/>
		\$232,220 48

STATEMENT SHOWING HOW SURPLUS WAS EMPLOYED

Increased Assets:

Plant—

Fernald Hall Annex	\$1,378 70	
Inventories, increased	6,751 39	
Amount due from State, increased....	20,990 94	
Bills Payable, decreased	14,000 00	
Cash on hand, increased	142 41	\$43,263 44
	<hr/>	

LESS

Accounts Receivable, decreased	\$60 42	
Bills Receivable, decreased	337 80	
Accounts Payable, increased	8,727 96	9,126 18
	<hr/>	
Net increase in Surplus		\$34,137 26

MAINE AGRICULTURAL EXPERIMENT STATION
STATEMENT SHOWING RECEIPTS AND EXPENDITURES, JULY 1, 1912, TO JUNE 30, 1913, INCLUSIVE

	Adams Fund	Hatch Fund	General Fund	Inspection Account	Animal Husbandry	Appropri- ation for Printing
Balance July 1, 1912.....	-	-	†\$673 88	\$6,993 98	-	\$2,643 84
Total receipts.....	\$15,000 00	\$15,000 00	11,410 95	22,039 24	-	4,500 00
Totals.....	\$15,000 00	\$15,000 00	\$10,737 07	\$29,033 22	-	\$7,143 84
Expenditures.....	15,000 00	15,000 00	9,253 19	21,492 54	\$863 25	4,157 01
Balance June 30, 1912.....	-	-	\$1,483 88	\$7,540 68	*\$863 25	\$2,986 83

† Deficit balance June 30, 1912.
* Deficit balance June 30, 1913.

To the Trustees,
University of Maine

Respectfully yours,
CHARLES J. DUNN,
Treasurer

REPORT OF THE PRESIDENT OF THE UNIVERSITY

To the Board of Trustees of the University:—

I submit the following report for the year 1912-13:

For the first time the enrollment of students in the University exceeded 1000. There were 804 students from the State of Maine. These students came from every corner of the State, no county being represented by fewer than 10. From outside the State there were 207 students, coming from 14 states and 4 foreign countries. Of the total 1011 students, 747 were candidates for degrees.

The work of the year was marked by a spirit of enthusiasm and co-operation. Students and faculty were a unit in trying to make the most of the opportunities offered by the institution. The new men which were added to the faculty at the beginning of the year readily found their places and successfully coöperated with their fellows for the best results.

It is now generally recognized that a state university exists for three definite purposes: it must conserve and transmit knowledge; it must extend the boundaries of knowledge; it must carry to the people in a form ready for application the best results of class rooms and laboratories. The rapid growth in attendance has compelled the University of Maine to devote most of its energy to the conservation and transmission of knowledge. It grows each year increasingly difficult to meet the actual class room needs. One division of the University, the Experiment Station, gives its entire time to the extension of knowledge. The best results, however, can not be attained in the other departments of the institution unless the professors are encouraged to do a reasonable amount of research work. For several years the College of Agriculture, through its Extension department, has been carrying knowledge to the farmers of the State and showing them how to apply it. The demand from the people for other forms of knowledge is growing. It is as much the business of the University to help the people in the solution of other problems as it is to help them in the work of agriculture. During the past year a beginning was made in extension work by other departments of the University. We expect to extend and strengthen this work during the coming year.

If the University of Maine is to realize the three purposes above mentioned, it is very evident that the expense of maintaining the institution will increase. Nothing, however, is costly if it is worth more than is paid for it. Money will be needed, not only for additions to the

material equipment, but more particularly for the pay of men. The salaries paid in this institution are not as high as those paid in institutions of similar grade. Wages of teachers have gone up everywhere. This becomes evident when vacancies occur and we search for men to fill them. Many high schools pay salaries very much larger than we do. The question of increased revenue must receive careful consideration, if the institution is to continue to grow and to do the work that the State expects.

Respectfully yours,

ROBERT J. ALEY

REPORT OF THE DEAN OF THE UNIVERSITY

To the President of the University:—

I submit the following report of the Dean of the University for the year 1912-13:

Admissions to the freshman class in 1912 compare with previous years as is shown in the following table:

Year	1904	1906	1908	1909	1910	1911	1912
Regular freshman	88	157	162	152	143	162	239
Average number of units offered	11.4	12.5	13.6	13.7	13.8	13.8	14.3
Percentage admitted without conditions..	48	62	62	40	51	56	64
First year specials ...	27	17	21	6	9	12	9
Percentage of special students	25.5	10	11.5	4	6	7	4

Under our new plan of admission it is expected that very few students will be admitted with conditions, but inasmuch as schools and students had but brief notice of the change, admissions for 1912 were largely under the old plan. While only 64% of the freshmen came absolutely unconditioned, 79% offered fourteen or more units. None were admitted conditioned in more than three units, and but five with more than two.

Including specials and those in two year courses, 86 Maine schools sent 227 students; these came from 145 different localities or post-office addresses. Thirty-nine schools from outside the State sent 44 students. Sixty-nine candidates came from 35 Maine schools that sent none in 1910 or 1911.

A study has been made of the comparative standing for the first semester of students from different classes of schools, also of the ranks of this year's freshmen compared with those of 1910 and 1911, with satisfactory results. A similar comparative study has been made of grades in the various subjects of the freshman year. It is intended to continue such investigations.

During the year there has been very little occasion for discipline of students. A slightly larger number than usual have been required to withdraw from the University. On the other hand, the number of students placed upon probation has been unusually small.

Respectfully yours,

JAMES N. HART,
Dean of the University

REPORT OF THE DEAN OF THE COLLEGE OF AGRICULTURE

To the President of the University:—

I submit the following report of the College of Agriculture for the year 1912-13:

REGISTRATION OF STUDENTS

The total registration of students for the year was 259. Of these 197 were four year students and 62 were two year students.

TEACHING FORCE

During the year two instructors were added to the teaching force, one to the department of Animal Industry and one to the department of Bacteriology. The needs of the departments for the coming year make necessary the appointment of three additional instructors, one each for the departments of Agronomy, Home Economics, and Forestry.

EQUIPMENT.

The soil physics and biological chemistry laboratories have been enlarged and in the former considerable new equipment has been added. The live stock equipment has been improved by the purchase of a few head of pure bred stock. It will be necessary to rearrange the outdoor laboratories maintained by the Horticultural and Forestry departments and plans for doing so have been completed and the necessary land assigned to the above departments. The Agronomy field laboratory was increased in size and now constitutes one of the "show places" of the University.

EXTENSION SERVICE

During the year the Extension department has been able to render greater service to the farmers of Maine than ever before.

Lectures and Demonstrations were given to the number of 243 at which there were 23,911 people in attendance, representing an increase of 7.5% in number of lectures and 12.4% in attendance.

The *Correspondence Courses* have been taken by the usual number of people. It is now planned to revise at least two of the courses and publish them in pamphlet form to be used in place of the text-books formerly recommended.

Four *Lecture Courses* consisting of five lectures each were given in various parts of the State with good results.

Three *Extension Schools* were held in Oxford County. The course given was in grading and packing apples. The attendance exceeded 220. It is planned to hold a greater number of schools of similar type but dealing with various subjects in other parts of the State the present year.

The *Annual Farmers' Week* was enlarged to meet the demands made upon the University and as usual was well attended.

The *Short Winter Courses* on account of lack of accommodations were not extensively advertised and consequently the attendance fell off somewhat. An effort will be made the coming winter to provide ample room and boarding accommodations, and to secure large classes.

Farm Demonstration Work is now under way in four counties in the State, and results already show an increased interest and in the spread of influence from the local demonstrations. The work is financed by the General Education Board. Additional funds have been granted for similar work in Penobscot County.

Boys' and Girls' Agricultural Clubs. Beginning August 15th a representative of the College will devote all his time to organizing clubs and to directing their work. The expenses are paid by the General Education Board.

The Correspondence of the College is steadily increasing. Thousands of inquiries are received from farmers representing every section of Maine. This service requires considerable time but is compensated for by the great value of the information given to the inquiries.

Respectfully yours,

LEON S. MERRILL,
Dean, College of Agriculture

REPORT OF THE DEAN OF THE COLLEGE OF ARTS AND SCIENCES

To the President of the University:—

I submit the following report of the College of Arts and Sciences for the year 1912-13:

Degrees in Pedagogy. Action has been taken whereby graduates of the Maine normal schools, who have completed four years in a Class A fitting school, and who have had a teaching experience of one or more years, may be admitted to the University as candidates for the degree of Bachelor of Pedagogy, and receive this degree upon completion of two years' work. This step, heartily endorsed by the State Superintendent of Public Schools, should tend to bring the various State institutions into a closer relationship.

Curriculum in Journalism. Announcement has been made of a curriculum outlined in the department of English, designed to train students for journalistic work. There are indications that a number of students will register for this work in the coming year.

Graduate Work. In common with the other colleges of the University the College of Arts and Sciences has extended the scope of its graduate work. The master's degree is offered in all departments, and the next issue of the catalog will indicate which courses may be taken for graduate credit.

Department Changes. We are most fortunate that no change has been made in the head of any department. Several appropriate promotions have been made, and an assistant professor of economics and sociology has been added. This addition will enable the department to strengthen the courses which are especially adapted to students in this college. Mr. L. J. Reed, who has served as secretary of this faculty for two years has leave of absence for graduate study at the University of Pennsylvania.

Summer Term. While the Summer Term is a department of the University, most of its courses are in this college. The session of 1913 had an attendance of 128, the next to the largest of any term. The presence of a large number of teachers and mature students added to the interest of the class work. The summer session is becoming more and more attractive to college graduates and teachers who have had a partial college course.

General Lecture Courses. During the year lecture courses were given in the fall semester by the departments of History and Economics

and Sociology, and in the spring semester by the departments of Mathematics and Physics. A schedule has been arranged covering four years, and including the various departments in the college.

In common with other colleges, we need larger appropriations for salaries, equipment, and books. Perhaps the greatest need is a building devoted exclusively to arts and sciences.

Respectfully yours,

JAMES S. STEVENS,
Dean of the College of Arts and Sciences

REPORT OF THE DEAN OF THE COLLEGE OF LAW

To the President of the University:—

I submit the following report of the College of Law for the year 1912-13:

The registration of the College of Law was 116 as against 113 last year and 107 the year before. The men are classified as follows:—Graduate Students 20, Seniors 22, Juniors 24, First Year Men 20, Special Students 19.

The counties of the state were represented as follows:—Androscoggin 3, Aroostook 3; Cumberland 15, Franklin 1, Hancock 4, Kennebec 4, Knox 3, Oxford 3, Penobscot 22, Piscataquis 1, Sagadahoc 0, Somerset 7, Waldo 0, Washington 6, York 3; or 72 men in all.

The states were represented as follows:—Massachusetts 20, New Hampshire 7, Vermont 7, Connecticut 4, California 1, North Dakota 1, New York 1, Pennsylvania 1, and China 1; making in all 44 men from outside the State of Maine.

Colleges and universities were represented as follows:—Maine 5, Bowdoin 2, Colby 2, Brown 1, Colgate 1, Dartmouth 1, Euphrates 1, Harvard 1, St. Joseph's 1, University of Chicago 1, St. Mary's 1, and West Point 1; or 18 in all. There were 24 men that had a partial college education.

Other law schools had representatives in the College as follows:—Albany Law School 1, Boston University Law School 1, Illinois College of Law 1, New York University Law School 1, Southern Normal University College of Law 1.

At the Commencement last June the degree of LL. B. was conferred on eighteen men, and the degree of LL. M. on six.

In the State bar examinations of this year all the graduates of the College of Law that took them passed successfully.

According to the vote of the board of trustees, graduate study *in absentia* will wholly cease in June 1914. No new applications for registration have been accepted since June 1912.

The gift to the College of Law of Twenty Thousand Dollars by Hon. D. D. Stewart of St. Albans Maine, to be called "The Levi M. Stewart Fund" was the first large gift received by the College of Law.

The Maine Law Review, about to begin its seventh year, is managed in a business-like manner and reflects credit upon the students and the College. On the occasion of the celebration of the fifteenth anniversary of the College of Law, the Maine Law Review published a nine-

page article on "Our Law School, Its Origin, Its Life, Its Work," and an editorial on the same subject, with pictures of the faculty and the editorial board of the Review.

The establishment of a branch of the University Store Company in the College of Law building, recommended by me in previous reports, was effected this year and has been a success. Miss Agnes B. Sawyer has charge of the same, as well as of the college office.

Respectfully yours,

W. E. WALZ,
Dean of the College of Law

REPORT OF THE DEAN OF THE COLLEGE OF TECHNOLOGY

To the President of the University:—

I submit the following report of the College of Technology for the year 1912-13:

During the year the college has had a registration of 354. At Commencement 53 students were given the degree of Bachelor of Science and 8 the degree of Pharmaceutical Chemist.

The year has shown steady improvement and an increased efficiency in the different departments. The capacity of the College is taxed, both in its major students, and by special courses in engineering and chemistry demanded by departments in other colleges.

Efforts have been continued to keep in closer touch with the alumni. Letters have been sent out and statistics gathered. It is proposed to publish the results of these statistics during the coming year. Many of our technological graduates now remain in Maine, instead of finding employment elsewhere as was formerly the usual practice. There are now more than 240 of our graduates employed as engineers and chemists in Maine. This is more than the number living in New York and nearly as many as are employed in New York and Massachusetts together.

Upon the completion of the new chemistry-physics building, the department of Chemistry will find a much needed relief in larger and better facilities for carrying on its work. Additional space for other engineering departments is greatly needed. A still urgent need is more money for equipment and salaries.

This College desires to give the people of Maine the benefit of its services, not only in training engineers and chemists, but also in helping to solve questions dealing with electric lighting, power, bridges, railroads, highways, and other matters of similar nature. Some progress has been made in the latter field. The difficulty in the way of doing more is that the people of the State do not know that the College and the faculty are for their use. We hope this knowledge may become more generally disseminated, and result in a wide use of the College.

In conclusion, I wish to express my appreciation of the unity of purpose and the commendable spirit shown by the faculty of this College. The men are all giving their best efforts to make the work successful.

Respectfully yours,

H. S. BOARDMAN,
Dean of the College of Technology

REPORT OF THE LIBRARIAN

To the President of the University:—

I submit the following report of the Library for the year 1912-13:

During the year ending June 30, 1913, the number of books added to the General Library was 2,127, to the Law Library, 193, and to the Agricultural Experiment Station Library 270, a total increase of 2,590. This makes the record of books in the libraries on June 30 stand: General Library, 42,751, Law Library, 3,675, and Agricultural Experiment Station Library, 3,884, a total of 50,290. It is worth noting that we have passed the 50,000 mark.

The growth of the library and the increase in the faculty and student body has been accompanied by a corresponding increase in the use made of the facilities we provide. The problem of providing space for the normal increase of the Library in the immediate future has been called to your attention in a special report; it will soon become very serious.

The library staff during the past year has been satisfactory. One change will be made, already provided for, owing to desire of one assistant to accept a more remunerative position elsewhere.

Respectfully yours,

RALPH K. JONES,
Librarian

REPORT OF THE PROFESSOR OF MILITARY SCIENCE AND TACTICS

To the President of the University:—

I submit the following report of the Military Department for the year 1912-13:

When the college year opened about three hundred and forty freshmen and sophomores, nine juniors and four seniors registered for the course in military science and tactics. The officers were taken from the junior and senior classes and the non-commissioned officers from the sophomore class. On account of the large number of freshmen and sophomores it was necessary to put the men into five companies. As long as we were able to drill out of doors the time was taken up with instruction in close order work including the school of the soldier, squad, and company. After we were obliged to remain indoors the time was divided so that one company used the gymnasium floor for close order drill, while another company was in the shooting gallery or in recitation in infantry drill regulations. When we were again able to go out of doors in the spring, extended order work and battalion drills were taken up.

After the Christmas recess a band of twenty-five pieces was organized from those students who were taking the course. The band was placed under the leadership of one of the students and was required to practice twice a week. The members of the band were excused from other drills.

Just before the Christmas recess the members of the battalion organized a rifle club and joined the National Rifle Association and entered for the intercollegiate matches. These matches, thirteen in number, were shot once each week until the first of April. The University of Maine team won three of these matches. This was a very good showing, as the team had but little time to practice prior to the beginning of the shoot. The students seem to be interested in the shooting and and it is hoped that they will make a better showing next year. The shooting was conducted in the baseball cage until it had to be used by the track men. A new gallery range was then built on the third floor of Lord Hall.

On May 28th the United States inspector made his annual inspection and reported that the battalion made a very creditable showing.

Respectfully yours,

RALPH R. GLASS,
First Lieutenant 21st Infantry
Professor of Military Science and Tactics

REPORT OF THE PROFESSOR OF PHYSICAL CULTURE

To the President of the University:—

I submit the following report of the Department of Physical Culture and Athletics for the year 1912-13:

In addition to the physical culture required of freshmen, three hours a week (two hours gymnasium and one hour lecture), advanced elective courses are offered upper-classmen. Over four hundred students registered for work in this department during the past year.

The university football, track and baseball teams were coached under my supervision. The various coaches were appointed with my approval by the Athletic Board. This Board is composed of three representatives of the faculty, appointed by the faculty, three alumni, elected by the Alumni Association, and four undergraduates, elected by students. A cross country race with the other Maine colleges and dual track meets with Trinity and Bates were new features of our athletic schedules.

A series of interfraternity track meets interested a large number of students in the various events.

During the year a number of improvements were made on the athletic field, the greater portion of the funds required being contributed by the alumni.

Respectfully yours,

EDGAR R. WINGARD,
Professor of Physical Culture

REPORT OF THE DIRECTOR OF THE MAINE AGRICULTURAL EXPERIMENT STATION

To the President of the University:—

I submit the following report of the Experiment Station for the year 1912-13:

In addition to the work of investigation for which the Experiment Station was established, the Director is charged with the enforcement of the laws regulating the sale of agricultural seeds, commercial feeding stuffs, commercial fertilizers, drugs, foods, fungicides and insecticides, and the calibration of the chemical glass ware. Because of this the Station is organized in two distinct divisions—one having to do with the work of inspection and the other with the work of investigation. Outside of the executive office these two general divisions of the Station do not overlap.

THE WORK OF INSPECTION

During the year most of the manufactories and places of business coming under the requirements of the laws of which the Director is the executive have been visited and full reports made by the inspectors. Many hundreds of samples of the different classes of materials on sale have been collected by the inspectors and examined by the analysts. In the case of violation of the law hearings were appointed and where it seemed best for the public good prosecutions were made. The results of the work of inspection are published in a series called Official Inspections. During the year ending June 30, 1913, ten numbers aggregating 160 pages were published.

THE WORK OF INVESTIGATION

The work of investigation is conducted by the departments of Biology, Entomology, and Plant Pathology. The field experiments with fertilizers, crop management, etc., are under the direct oversight of the Director. The laboratories and poultry plant at Orono, and Highmoor Farm, are used for the work of investigation.

The legislature of 1913 enacted two laws of importance to the investigational work of the Station. One provides that the Station shall undertake investigations in animal husbandry and appropriates \$5,000 annually for this purpose. The other looks toward the purchase of an experimental farm in Aroostook county to be under the management of

the Station. Plans are in progress for taking up at once the work of investigations in animal husbandry. The committee on the purchase of the farm have not yet made a selection.

The results of the work of investigation are published in the bulletins of the Station and in scientific journals. During the year ending June 30, 1913, twelve bulletins containing 416 pages were published. Papers aggregating about 100 pages were also published in scientific journals. The annual report for 1912 (668 pages) contains the account of the work completed during that year. The publications of the Station are sent free to residents of the State and to libraries and scientific workers outside of the State. To other non-residents a nominal price is asked.

Respectfully yours,

CHAS. D. WOODS,

Director of the Maine Agricultural Experiment Station

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THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

The Maine Bulletin

Entered at the post office at Orono as second-class matter

Vol. XVII University of Maine, Orono, Maine, October, 1914 No. 2

ANNUAL REPORT

of the

UNIVERSITY OF MAINE

For the Year Ending June 30, 1914



Reports of the Trustees, Treasurer, President,
Registrar, Deans, Directors, Librarian, Pro-
fessor of Military Science, and Professor
of Physical Culture

ANNUAL REPORT

OF THE

UNIVERSITY OF MAINE

FOR THE YEAR ENDING JUNE 30, 1914

REPORTS OF THE TRUSTEES, TREASURER, PRESIDENT,
REGISTRAR, DEANS, DIRECTORS, LIBRARIAN, PRO-
FESSOR OF MILITARY SCIENCE, AND PRO-
FESSOR OF PHYSICAL CULTURE

Published for the University
SENTINEL PUBLISHING COMPANY
WATERVILLE, MAINE
1914

CONTENTS

Report of the President of the Board of Trustees.....	3
Report of the Treasurer of the University.....	4
Report of the President of the University.....	14
Report of the Registrar of the University.....	17
Report of the Dean of the University.....	22
Report of the Dean of the College of Agriculture.....	27
Report of the Dean of the College of Arts and Sciences.....	32
Report of the Dean of the College of Law.....	33
Report of the Dean of the College of Technology.....	35
Report of the Librarian.....	38
Report of the Professor of Military Science and Tactics.....	42
Report of the Professor of Physical Culture.....	43
Report of the Director of the Agricultural Experiment Station.....	44
Report of the Director of the Agricultural Extension Service.....	46

REPORT OF THE PRESIDENT OF THE BOARD OF TRUSTEES

To the Honorable Governor and Council:—

The past year has been one of the most successful in the history of the University of Maine. The President and faculty have continued their earnest and untiring efforts in the several departments of education, and better work, on broader lines is being accomplished year by year.

Appreciated by the public, with the general support of Maine's best citizenship, the work of giving to our young men and women a liberal and practical education, fitting them for lives of intelligent usefulness, is now going forward at the University, on a scale that its founders would have thought impossible.

The wing of the women's dormitory, for which the last Legislature made an appropriation, is now completed and filled to its capacity, and more room is needed to take care of the young women who are coming to the University in constantly increasing numbers. It is to be hoped that the next Legislature will provide for the construction of the other wing of this building, which was contemplated when the plans for the present one were drawn.

The new Physical-Chemical Laboratory is nearly completed and ready for occupancy, and is the largest and most imposing building on the campus. This will be one of the finest and best appointed buildings of its kind in New England. Both of these structures have been erected within the appropriations made by the State for that purpose.

Through the generosity of the Hon. D. D. Stewart of St. Albans, the trustees have been able to pay off the debt on the College of Law building in Bangor, amounting to something over thirty-three thousand dollars, with funds given to the institution by Mr. Stewart. This timely and liberal act on his part merits and will receive not only the gratitude of those immediately connected with the University but of the people of Maine generally.

Exterior repairs on the central heating plant have been made, as well as other improvements on buildings and grounds.

The finances of the University, as shown by the Treasurer's report, have never been in better condition, and we take this occasion to say that of all the acquisitions made to the University in recent years none have been of more value than its present Treasurer, Hon. Chas. J. Dunn, to whose judicious and well directed efforts we are largely indebted for the good financial condition of the institution today.

Respectfully submitted,

S. W. GOULD,

President of the Board of Trustees

REPORT OF THE TREASURER

University of Maine

FOR THE FISCAL YEAR ENDED JUNE 30, 1914

To the Board of Trustees of the University:—

I submit herewith the report for the year 1913-14:

ASSETS

Trust Fund Investments:

Coburn Trust Fund	Schedule A	\$100,000 00	
U. S. Land Scrip Fund	Schedule A	118,300 00	
Levi M. Stewart Fund	Schedule A	20,000 00	
Nehemiah Kittredge Loan Fund	Schedule B	1,502 13	
Kidder Scholarship Fund	Schedule B	750 00	\$240,552 13
<hr/>			
Lands and Buildings	Schedule C	588,483 49	
Inventories	Schedule D	228,946 49	
Accounts Receivable	Schedule E	16,180 38	
Appropriations			
State of Maine	Schedule F	34,571 84	
Bills Receivable	Schedule G	3,733 61	
Cash on hand, June 30, 1914	Schedule H	1,605 80	
<hr/>			
			\$1,114,073 74
<hr/>			

LIABILITIES

Trust Funds:

Coburn Trust Fund		\$100,000 00	
U. S. Land Scrip Trust Fund		118,300 00	
Nehemiah Kittredge Loan Fund		1,502 13	
Levi M. Stewart Fund		20,000 00	
Kidder Scholarship Fund		750 00	\$240,552 13
<hr/>			
Bills Payable	Schedule I	13,750 00	
Accounts Payable	Schedule J	66,432 81	
Surplus		793,338 80	
<hr/>			
			\$1,114,073 74
<hr/>			

SCHEDULE A—ASSETS:

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, dated Feb. 5, 1889, due July 1, 1917, bearing interest at 4% per annum, of the par value of

	\$100,000 00
--	--------------

United States Land Scrip Trust Fund Investment:

Under the provisions of An Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has realized an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1889, due July 1, 1915, bearing interest at 5% per annum, of the par value of

	\$118,300 00
--	--------------

Levi M. Stewart Fund Investment:

This represents a fund received from Hon. David D. Stewart, executor and residuary legatee of Levi M. Stewart, late of Minneapolis, Minnesota, amounting to

	\$20,000 00
--	-------------

By special permission of the donor, this fund is temporarily invested as a part of the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall.

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge, of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same loans are made to needy students in the three upper classes. It is now invested as follows:

Nineteen promissory notes, signed by present and former students of the University, aggregating, exclusive of accrued interest	\$ 896 98
On deposit in Bangor Savings Bank, Book No. 45602	605 15

\$1,502 13

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, of Denver, Colorado, class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, amounting to

	\$750 00
--	----------

This fund is on deposit in the Bangor Savings Bank, as per book No. 45603.

SCHEDULE C—ASSETS

Lands and Buildings:

Alumni Field, structures only	\$1,000 00
Alumni Hall	31,979 80
Alumni Hall Annex (partially completed)	16 00
Aubert Hall (partially completed)	34,708 87
Balentine Hall (partially completed)	15,470 91
Balentine Hall Annex (partially completed)	1,668 28
Campus and Farm Lands	11,000 00
Library Building	50,985 06
Coburn Hall	28,203 80
Estabrooke Hall	6,000 00
Faculty Houses	26,235 65
Farm Buildings	25,605 14
Fernald Hall	30,000 00
Fernald Hall Annex	1,378 70
Hannibal Hamlin Hall	55,707 62
Heating Plant	56,664 97
Horticultural Building	2,500 00
Infirmary	700 00
Janitor's House	1,000 00
Kappa Sigma House	5,400 00
College of Law Building, Bangor	33,750 00
Locomotive House	200 00
Lord Hall	38,337 48
Mount Vernon House	3,500 00
Oak Hall	40,000 00
Observatory	500 00
Old Pumping Station	1,200 00
Power House	1,000 00
Stand Pipe and Fixtures	1,000 00
Stock Judging Pavilion	4,292 46
Store House (old Art Guild)	900 00
Store House	500 00
Theta Epsilon House	3,500 00
Waiting Room	226 97
Wingate Hall	25,143 93
Winslow Hall	45,207 85
Woodward Farm	3,000 00

 \$588,483 49

SCHEDULE D—ASSETS

Inventories:

Advertising	\$272 88
Balentine Hall	13 29
Biology	8,756 27
Care of Buildings	180 50
Commencement	316 65
Chemistry	15,349 56
Civil Engineering	8,143 06
Commons	1,501 10
College of Agriculture:	
Postage, Printing, and Stationery	551 92
Sundry Supplies and Miscellaneous	350 95
Equipment	13,684 25
Cows	5,270 00
Horses	2,675 00
Poultry	1,902 75
Other Live Stock	709 00
Feed	730 57
Home Economics	1,067 19
Bacteriology and Veterinary Science	2,461 46
Biological and Agricultural Chemistry	1,251 00
Diplomas	204 90
Economics and Sociology	45 00
Electrical Engineering	8,335 18
English Language	220 50
Forestry	504 49
Greek	1,529 00
Hannibal Hamlin Hall	2,219 63
History	99 90
Hospital	52 70
Inn	2,355 20
Insurance	4,106 58
Latin	95 10
Laundry	317 30
Law School	1,348 82
Law Library	10,435 89
Library	60,217 26
Locker Account	1,020 00
Mathematical Science	4,253 00
Mechanical Engineering	23,248 83
Mechanics and Drawing	992 20
Military Science	443 74
Mount Vernon House	1,424 98
Mount Vernon House Annex No. 1	646 00
Museum	10,948 23
Oak Hall	1,640 52

Office Supplies and Postage	336 37
Pharmacy	294 64
Philosophy	319 75
Physical Training	1,659 00
Physics	8,250 79
Power, Heat, Light, and Water:	
Coal	3,955 50
Supplies	3,409 84
Repairs to Buildings	1,511 45
Furnishings and Fixtures	7,316 80
	<hr/>
	\$228,946 49

SCHEDULE E—ASSETS

Accounts Receivable:

This account represents funds due the University as follows:

Students Accounts	\$2,240 66
Experiment Station	11,485 46
Other General Ledger Accounts	2,454 26
	<hr/>
	\$16,180 38

SCHEDULE F—ASSETS

State of Maine, Appropriations:

Amount due the University under the provisions of the

Laws of 1913, and unpaid, as follows:

Appropriations for New Laboratory	\$31,324 06
Appropriation for New Dormitory	12,100 00
Appropriation for Printing and Binding	1,147 78
	<hr/>
	\$44,571 84
Less advance on account of Appropriation for Maintenance	10,000 00
	<hr/>
	\$34,571 84

SCHEDULE G—ASSETS

Bills Receivable:

Represents notes held by the University as follows:

Sixty nine (69) promissory notes signed by present and former students, given in settlement of tuition fees, term bills, etc., aggregating	\$1,733 61
Two (2) promissory notes given by Building Association	2,000 00
	<hr/>
	\$3,733 61

REPORT OF THE TREASURER

9

SCHEDULE H—ASSETS

Cash Balance, June 30, 1914:

On deposit, Merrill Trust Co., Bangor, Me.	\$503 03
On deposit, Eastern Trust & Banking Co., Old Town, Me.	7 29
Cash Drawer	1,095 48
	<hr/>
	\$1,605 80

Cash on hand June 30, 1913	\$1,025 16
Total receipts for year	449,277 65

	<hr/>
	\$450,302 81
Less total disbursements for year	448,697 01
	<hr/>
	\$1,605 80

SCHEDULE I—LIABILITIES

Bills Payable:

Law School Building Notes—

Edwin G. Merrill, New York, Due Sept. 1, 1913	\$8,750 00
Merrill Trust Co., Bangor, Demand	5,000 00
	<hr/>
	\$13,750 00

SCHEDULE J—LIABILITIES

Accounts Payable:

Audited Vouchers	\$45,136 56
The Levi M. Stewart Fund Loan	20,000 00
Key Deposit Account	65 00
Thesis Binding	38 25
Summer Term, 1914	1,193 00
	<hr/>
	\$56,432 81

STATEMENT SHOWING INCOME FROM ALL SOURCES

Income from Students:

Registration fees	\$8,025 00
Tuition fees, General	\$20,048 50
Tuition fees, College of Law ...	5,720 30
	<hr/>
Incidental fees	15,825 00
Special fees for Laboratories, Degrees, etc...	460 43
For Dormitories	5,090 12
	<hr/>
	\$55,169 35

Income from Investments:

Endowments for general purposes (Coburn)	4,000 00	
Rents	2,016 87	6,016 87

Income from Grants by State and Nation:

State—

Appropriation for Maintenance	110,000 00
Appropriation for New Laboratory	56,250 00
Appropriation for New Dormitory	15,000 00
Appropriation for Printing and Binding	1,500 00

Federal Aid—

Income from Land Grant—Act of July 2, 1862	5,915 00	
Additional endowments—Acts of Aug. 30, 1890 and March 4, 1907	50,000 00	\$238,665 00

Income from Departments:

Law Library	875 47	
Mechanics and Drawing	153 73	
Museum	172 36	
Greek	65 95	
Biology	253 35	
Chemistry	1,303 13	
Physics	90 84	
Shop	72 72	2,987 55

Income from Other Sources:

College of Agriculture-Sales	11,389 77	
College of Agriculture-Laboratory fees	906 00	
Poultry	1,244 90	
Horses	830 00	
Board of Students, Summer Term, 1913 ...	70 65	
Recreation Room Subscriptions	10 50	
Technology Extension fees	87 50	14,539 32

\$317,378 09

STATEMENT SHOWING TOTAL EXPENDITURES

Salaries:

Salaries of Officers	\$11,004 20	
Salaries of Instructors	93,694 42	\$104,698, 62

Administration Expenses:

Thesis Binding	7 50
Printing Reports and Bulletins	1,695 32
Advertising	654 67

REPORT OF THE TREASURER

11

Clerk Hire	4,477 35	
Commencement	719 18	
Freight and Express	1,260 51	
Office Supplies and Postage	2,844 98	
Telephone and Telegraph	686 40	
Traveling Expenses	1,292 45	
Interest and Discount	1,356 05	
Miscellaneous	710 93	15,705 34

Maintenance of Property:

Repairs to Buildings	12,343 95	
Care of Buildings	5,970 58	
Furnishings and Fixtures	2,065 91	
Insurance	2,002 18	
Athletic Field	723 82	23,106 44

Power, Heat, Light and Water:

Labor	5,217 87	
Supplies	2,572 20	
Electricity	1,854 24	
Coal	12,090 02	
Water	1,163 54	
Freight and Express	253 79	23,151 66

Department Expenses:

Civil Engineering	606 84	
Electrical Engineering	531 05	
College of Law	8,656 84	
Library	2,067 97	
Mathematical Science	246 40	
Mechanical Engineering	770 64	
Military Science	7 91	
Physical Training	813 64	
English Language	6 25	
History	7 30	
Philosophy	10 05	
Pharmacy	85 33	13,810 22

House Charges:

University Inn	\$436 91	
Laundry	83 08	
Hospital	295 91	
Mount Vernon Annex No. 1	383 97	
Mount Vernon Annex No. 2	526 39	1,726 26

College of Agriculture:

Salaries of Instructors	24,966	58	
Pay of Employees	10,432	71	
Equipment	553	64	
Cows	94	45	
Other Live Stock	247	00	
Feed	5,220	49	
Fertilizer, Seeds, etc.....	1,093	58	
Sundry Supplies and Miscellaneous	1,773	81	
Repairs	17	62	
Traveling Expenses	1,876	29	
Postage, Printing and Stationery	1,913	01	
Home Economics	89	36	
Freight and Express	441	19	
Bacteriology and Veterinary Science	301	51	
Biological and Agricultural Chemistry	33	06	
Farmers' Week	167	94	
Forestry	384	14	49,606 38

Sundry Accounts:

Prizes	140	00	
Locker Account	528	90	
Summer Term-1913	1,378	67	
Profit and Loss	3,939	45	5,987 02

\$237,791 94

Surplus	79,586	15	
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\$317,378 09

STATEMENT SHOWING HOW SURPLUS WAS EMPLOYED

Increased Assets:

Plant—

Alumni Hall Annex	\$16	00	
New Laboratory	34,708	87	
New Dormitory	15,470	91	
Balentine Hall Annex	1,668	28	
Farm Buildings	375	00	
Store House (Old Art Guild)	400	00	
Inventories, increased	21,377	47	
Amount due from State, increased	4,228	74	
Bills Payable, decreased	27,000	00	
Accounts Receivable, increased	6,007	77	
Cash on hand, increased	580	64	\$111,833 68

LESS

Bills Receivable, decreased	230 17	
Accounts Payable, increased	32,017 36	32,247 53
Net increase in surplus		\$79,586 15

MAINE AGRICULTURAL EXPERIMENT STATION

STATEMENT SHOWING RECEIPTS AND EXPENDITURES JULY 1, 1913, TO
JUNE 30, 1914, INCLUSIVE

	Balance June 30, 1913	Receipts	Expendi- tures	Balance June 30, 1914
Adams Fund.....	-	\$15,000 00	\$15,000 00	-
Hatch Fund.....	-	15,000 00	15,000 00	-
General account.....	\$1,483 88	7,051 23	7,430 44	\$1,104 67
Inspection account.....	7,540 68	9,813 15	17,353 83	-
Inspection analysis.....	-	3,837 29	6,601 84	2,764 55*
Inspection analysis receipts.....	-	186 79	152 59	34 20
Registration fees—1914.....	-	5,100 00	5,100 00	-
Animal Husbandry account.....	863 25*	7,500 00	6,636 75	-
Aroostook Farm.....	-	11,250 00	13,855 84	2,605 84*
Sheep account.....	-	-	677 39	677 39*
Appropriation for printing.....	2,986 83	4,500 00	4,791 41	2,695 42

* Deficit balances

Respectfully submitted,

CHARLES J. DUNN,

Treasurer

REPORT OF THE PRESIDENT OF THE UNIVERSITY

To the Board of Trustees of the University:—

I submit the following report for the year 1913-14:

The past year has been a prosperous one. The attendance shows a healthy growth. The number of candidates for degrees is 101 larger than for the preceding year. In the Registrar's report will be found a detailed analysis of the attendance, classification, and distribution of students. The preparation of students is steadily improving as will be seen by a study of the Dean's report.

The increase in the number of students made it necessary to add a number of teachers to the faculty. The teaching faculty numbered 113 and the Experiment Station staff 14. The men and women of the faculty represent, in their preparation, the best colleges and universities of America and Europe. They are devoted to their work and are giving their best efforts to the interests of the University.

For the past decade considerable progress has been made in increasing the pay of teachers in all grades of educational work. Salaries have been increased in so many colleges that it is growing increasingly difficult for us to secure the kind of men that we ought to have at the salaries we are able to pay. Our salary schedule needs revision upward. Desirable teachers can not be secured nor retained unless we pay salaries on a par with those paid by other similar institutions. I recommend that the salary schedule receive your earnest and careful consideration.

The needs of the State and of the students, as well as our desire to keep pace with the best advances in other institutions, has made it necessary to develop the academic work of the University in several new fields. The department of Civil Engineering now has well organized courses in highway engineering. Through the coöperation of the State Highway Commission, the State testing laboratory has been moved to the University. This addition to the equipment of the University gives the department one of the very best roads laboratories in the country. The department of chemistry has made great progress in the development of courses in the chemistry of pulp and paper making. The pulp and paper manufacturers are greatly interested in this work and are coöperating in many helpful ways to make it a success. For the past two years the department of English has been giving considerable attention to the training of young men and women for newspaper work. The interest in this work is growing and the number of students taking it is increasing. The department of Home Economics has grown so rapidly that it now requires the full time of four teachers.

The Extension Service in the College of Agriculture is well organized and is doing splendid work for the various agricultural interests of the State. A full statement of this important work will be found in the Director's report. A very good beginning of extension work has been made by the College of Technology. Several classes were conducted during the past year. A number of classes will be maintained during the coming year. There is a real demand for service of this sort. The University should make plans soon to meet this demand. Members of the College of Arts and Sciences faculty have given many individual lectures in various parts of the state. During the coming year this work will be extended.

The completion of one wing of the new dormitory for women and an annex to it provide accommodations for about 50 women. The number of women applying for admission is greater than can be accommodated in both new and old dormitories. Aubert Hall, the new building for chemistry and physics, is nearly completed. It will give these departments much needed space. The space released in other buildings makes it possible to accommodate other departments better than heretofore.

Through the generosity of Hon. D. D. Stewart, of St. Albans, Stewart Hall, the home of the College of Law, in Bangor, has been paid for. This gives the University an unincumbered title to a splendid home for the College of Law.

It will be necessary to ask the next Legislature to make provision for the following needs:

(1) An appropriation sufficient to complete the women's dormitory. Unless we secure this, the number of women students admitted to the University must be limited.

(2) An appropriation sufficient to build a modern dairy barn and suitable building for dairy instruction and demonstration. In Dean Merrill's report specific and detailed reasons are given why these buildings are necessary.

(3) An appropriation for a small administrative building. The offices of the President, Registrar, Treasurer, and Dean are entirely inadequate and wholly unsuited for efficient work.

(4) An appropriation to build one unit of a mechanical laboratory. This building is required to house apparatus now located in the old heating plant, and to take care of the actual needs of the department of Mechanical Engineering.

We should also ask the Legislature to meet the terms of the Smith-Lever agricultural extension act. By the provisions of this act the State of Maine will receive from the Federal government the sum of ten thousand dollars yearly for extension work in agriculture and home economics, to be expended under the direction of the College of Agriculture of the University of Maine. There will also be available from the Federal treasury, additional amounts increasing in certain definite proportions for eight consecutive years, provided equal amounts shall be appropriated by the State.

The following table shows the amounts appropriated by the Federal government for agricultural extension work for the various years and the amounts necessary to be provided by the State to secure the Federal appropriation :

Year	Federal appropriation	State appropriation	Total amount available for Ex- tension work
1914-15	\$10,000	\$10,000
1915-16	14,389	\$4,389	18,778
1916-17	18,047	8,047	26,094
1917-18	21,704	11,704	33,408
1918-19	25,361	15,361	40,722
1919-20	29,018	19,018	48,036
1920-21	32,675	22,675	55,350
1921-22	36,333	26,333	62,666
1922-23	39,991	29,991	69,982

In the report of the dean of the College of Technology will be found facts relating to the need of hydraulic laboratories. This need is one that should receive your earnest consideration. In a state whose future is so closely connected with the development of its water-power there should be offered opportunity for the best instruction in the theory, practice, and development of such power. The dean of the College of Arts and Sciences calls attention to two departments that the University ought to provide for; a department of geology, and a department of music. His statements of the reasons for these departments are clear and convincing. They are departments that ought to be represented in an institution of the standing and quality of the University of Maine.

Respectfully submitted,

ROBERT J. ALEY,

President of the University of Maine

REPORT OF THE REGISTRAR OF THE UNIVERSITY

To the President of the University:—

I submit the following report of the Registrar of the University for the year 1913-1914:

The registration for the past year has been 1058, an increase of 47 over last year, and the largest in the history of the institution. Of this number, 848 were candidates for degrees, distributed as follows: Agriculture, 225; Arts and Sciences, 146; Law, 93; Technology, 384. The gain in candidates for degrees students is more than one hundred.

The following table shows the number of major students registered in the different departments:

	AGRICULTURE												ARTS AND SCIENCES										LAW		TECHNOLOGY												
	Agronomy Animal Husbandry Biology Dairy Husbandry Forestry Home Economics Horticulture *Agriculture 2-year Home Economics School Course Winter Courses Dairy and Gen- Horticulture Poultry Husb												Biology	Chemistry	Economy and Sociology	Education	English	German	History	Latin	Mathematics	Physics	Romance Language	Arts and Sciences	Summer Term	Law	Chemical Engineering	Civil Engineering	Electrical Engineering	Mechanical Engineering	Pharmacy	2-year Pharmacy	Technology				
Graduate.....	2	1											2	1	1			1									23	4	1								
Seniors.....	7	3	2	4	1	7							3	2	1	3		1	4	1	2	4				26	1	3	22	11	7						
Juniors.....	15	1		11	3	1							3	10		3	3	1	3	2	2	5				17	11	6	27	21	12	1					
Sophomores.....				11	7		29						3	11	4	6	4	1	2	5	1	5						15	9	22	19	11	1				
Freshmen.....				27	18		57						13	1	16		16	3		1	3		2	16		27	17	19	34	45	21	1			10		
Specials.....	8	4		2	8	2							2	1	1			1			1	3				18	1	6	4	4	4						
First year.....							620																												12		
Second year.....							515																												7		
All students.....							16	5	9																127												
Totals.....	32	8	4	2	55	37	10	86	11	35			16	5	9	24	6	45	7	29	10	3	11	12	5	17	19	127	111	45	47	110	100	55	3	19	10

Total, omitting duplicates, 1,058.

* Freshmen and Sophomores in the College of Agriculture, except in Forestry and in Home Economics, do not select major subjects until the junior year.

† Freshmen who have not selected major subjects.

Beginning with 1914, students in the College of Arts and Sciences will not select their major subjects until the Sophomore year.

The following table shows the gross number of students receiving instruction in each department at the beginning of the fall semester of 1913:

Department	Number
Agricultural and Biological Chemistry	110
Agromony	262
Animal Husbandry	205
Bacteriology and Veterinary Science	79
Biology	315
Chemistry	824
Civil Engineering	492
Economics	185
Education	48
Electrical Engineering	109
English	738
Farm Engineering and Mechanics	64
Forestry	100
German	343
Greek and Classical Archaeology	27
History	103
Home Economics	128
Horticulture	77
Latin	32
Mathematics	591
Mechanical Engineering	213
Mechanics and Drawing	342
Military Science	464
Pharmacy	51
Physical Training	260
Philosophy	51
Physics	213
Poultry Husbandry	198
Romance Languages	160
Veterinary Science	79

The following table shows the number of students registered from the different counties of Maine during the past nine years:

REGISTRATION BY COUNTIES FOR THE PAST NINE YEARS

COUNTY	1905-06	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	Total
Androscoggin.....	27	28	40	39	32	45	37	47	47	34
Aroostook.....	25	22	34	32	29	23	30	31	33	259
Cumberland.....	47	70	78	86	91	75	83	96	121	747
Franklin.....	10	13	17	21	19	21	11	26	23	161
Hancock.....	24	27	24	36	43	33	32	52	43	314
Kennebec.....	26	29	30	25	33	31	40	51	55	320
Knox.....	13	11	11	18	16	14	21	28	31	163
Lincoln.....	14	13	10	11	10	8	8	15	19	108
Lxford.....	38	34	37	36	21	35	40	42	41	324
Penobscot.....	133	131	159	220	205	217	235	261	261	1,822
Piscataquis.....	24	28	35	17	23	19	16	24	28	214
Sagadahoc.....	5	6	7	12	10	8	9	10	9	76
Somerset.....	27	30	26	29	23	28	30	20	26	239
Waldo.....	20	20	18	17	20	19	32	19	24	189
Washington.....	40	50	48	48	44	38	41	40	28	377
York.....	28	34	43	46	43	47	36	42	50	369
Total.....	501	546	617	693	662	661	701	804	839	6,024

DEGREES GRANTED, JUNE 10, 1914

In the College of Agriculture:

Bachelor of Science,—in Agronomy, 6; in Animal Industry, 3; in Biology 3; in Dairy Husbandry, 2; in Forestry, 4; in Home Economics, 1; in Horticulture, 7.

Certificates in two-year Home Economics, 4; in School Course in Agriculture, 11.

In the College of Arts and Sciences:

Bachelor of Arts,—Biology, 3; Chemistry, 2; Economics and Sociology, 6; Education, 1; English, 3; History, 1; Latin, 4; Mathematics, 1; Physics, 2; Romance Languages, 4.

In the College of Law:

Bachelor of Laws, 21.

In the College of Technology:

Bachelor of Science,—in Chemical Engineering, 1; in Chemistry, 3; in Civil Engineering, 20; in Electrical Engineering, 10; in Mechanical Engineering, 6; Pharmaceutical Chemist, 5.

The following Masters, Professional, and Honorary degrees were granted:

Master of Arts, 2; Master of Science, 1; Master of Laws, 4; Chemical Engineer, 1; Civil Engineer, 2; Doctor of Laws, 2.

The committee on student employment has its headquarters in the general office. Work has been secured for a large number of students during the college year, and also during the summer vacation.

The work of the office increases each year, and has been facilitated this year by the aid of an efficient assistant. I recommend the installation of new filing equipment for our records, to include card cabinets and certificate files, in the form of combination, horizontal, and vertical units.

Respectfully submitted,

J. A. GANNETT,

Registrar

REPORT OF THE DEAN OF THE UNIVERSITY

To the President of the University:—

I submit the following report for the year 1913-14:

The following table gives details concerning admissions during the past nine years:

FRESHMEN ADMITTED.

YEAR	1904	1906	1908	1909	1910	1911	1912	1913
Number of regular freshmen admitted	88	157	162	152	143	162	242	313
Average number of units accepted...	11.4	12.4	13.6	13.3	13.8	13.8	14.3	14.7
Percentage admitted without conditions.....	48	62	62	40	51	56	64	73
Percentage admitted with 14 or more units.....							79	93
Number of first year specials.....	27	17	21	6	9	12	9	18
Percentage of first year specials.....	23	10	11	4	6	7	4	5
Percentage of candidates coming from Maine schools.....					76.4	78.3	83.7	81.0

The bare statement of units offered and percentage admitted without conditions needs to be supplemented by further details. In 1913, 202 students entered with more than 14 units, 91 with just 14 units, and 20 with fewer than 14 units, but quite a number of those offering 14 or more units were conditioned in some required subject. Eighty-one conditions in specified subjects were imposed, as follows: Solid Geometry, 43; Plane Geometry, 4; Algebra, 7; French, 8; German, 1; Modern Language (Colleges of Agriculture and Technology), 14; Foreign Language (College of Arts and Sciences), 2; History, 2.

Only seven per cent of the candidates admitted had less than 14 units. Nearly all the conditions were due to the fact that the candidate had not planned his high school course with reference to attending college, or had decided upon entering college within a year of graduation, or had attended a school in which some of the required work was not offered. This last condition happens most frequently in the case of solid geometry, which we feel obliged to require for admission to engineering courses, but which many small schools do not teach. Only five candidates were admitted with conditions in two required subjects.

ADMISSIONS CLASSIFIED BY SCHOOLS

The following table of admissions from Maine schools for the years 1910-1913 brings out the change in our constituency due to the new plan of admission:

NAME OF SCHOOL	1910	1911	1912	1913
Andover.....	0	0	1	0
Anson Academy.....	0	0	1	0
Ashland.....	0	0	1	0
Auburn (Ed. Little).....	0	0	0	2
Augusta (Cony High).....	2	2	8	11
Bangor.....	3	2	1	1
Bar Harbor.....	11	13	15	23
Bath (Morse High).....	4	1	3	7
Belfast.....	0	0	1	2
Berwick (Sullivan High).....	3	1	3	3
Bethel (Gould's Academy).....	0	0	1	0
Biddeford.....	0	2	3	0
Bingham.....	2	4	2	2
Blue Hill (Stevens Acad.).....	0	0	1	1
Boothbay Harbor.....	1	1	1	0
Brewer.....	0	0	1	1
Bridgton (High).....	1	2	9	7
Bristol.....	0	3	0	1
Brownville.....	0	1	0	1
Brunswick.....	0	0	0	1
Buckfield.....	0	2	0	1
Bucksport (E. M. C. S.).....	0	0	0	1
Buxton.....	1	1	3	0
Calais.....	0	0	0	2
Camden.....	0	3	1	0
Caribou.....	1	1	0	1
Castine.....	0	2	0	2
Charleston (H. C. I.).....	0	0	0	2
Cherryfield (Academy).....	0	0	1	2
Columbia Falls.....	0	0	2	0
Corinna.....	0	0	0	1
Cornish.....	0	1	1	0
Cumberland Center (Greeley Institute).....	0	0	2	4
Danforth.....	0	0	1	1
Dexter.....	1	0	0	0
Dresden Mills (Bridge Academy).....	0	3	3	1
East Corinth.....	0	0	2	0
East Machias (Washington Academy).....	0	0	4	1
Easton.....	0	0	1	0
Eastport.....	1	0	0	0
Ellsworth.....	0	3	0	0
Fairfield.....	1	1	1	0
Farmington.....	0	0	1	1
Fort Fairfield.....	1	1	4	0
Foxcroft.....	1	0	1	1
Freedom (Academy).....	1	4	5	3
Freeport.....	0	1	1	0
Fryeburg (Academy).....	0	0	1	0
Gardiner.....	1	1	2	2
Gorham.....	1	0	0	1
Gray (Pennell Institute).....	0	1	2	1
Greenville.....	0	0	0	1
Hallowell.....	0	0	1	0
Hampden (Academy).....	0	1	1	0
Hartland (Academy).....	2	3	2	2
Hinckley (Good Will High).....	0	0	1	1
Hebron.....	0	1	0	0
Houlton (R. C. I.).....	1	4	9	14
Island Falls.....	0	1	5	3
Islesboro.....	0	0	0	1
Jonesport.....	0	0	0	1
Kennebunk.....	0	0	0	1
Kennebunkport.....	0	0	0	2
Kents Hill.....	0	0	0	1
Kingfield.....	0	0	1	5
Lewiston (Jordan High).....	0	0	2	2
	0	4	0	5

NAME OF SCHOOL	1910	1911	1912	1913
Limerick.....	0	0	0	2
Limestone.....	0	2	0	0
Lisbon.....	0	0	0	2
Lisbon Falls.....	0	0	2	0
Livermore Falls.....	1	0	2	1
Lubec.....	0	0	0	1
Machias.....	0	0	1	1
Madison.....	1	0	1	0
Mars Hill.....	0	0	1	0
Mars Hill.....	0	0	1	1
Mexico.....	0	0	0	1
Milbridge.....	0	0	0	1
Millinocket.....	0	0	0	1
Milo.....	0	0	0	1
Monmouth (Academy).....	0	0	4	1
Monson (Academy).....	0	0	0	3
Newcastle (Lincoln Academy).....	0	0	5	2
New Gloucester.....	0	1	0	0
Newport.....	1	0	0	0
New Sharon.....	0	0	0	1
North Bridgton (Bridgton Academy).....	1	1	0	1
Northeast Harbor.....	0	0	0	1
North Parsonsfield (Parsonsfield Seminary).....	0	0	0	1
Norway.....	0	2	3	3
Old Orchard.....	0	0	1	1
Old Town.....	7	7	4	8
Orono.....	5	8	5	7
Oxford.....	1	0	0	0
Patten (Academy).....	1	0	2	0
Pittsfield (M. C. I.).....	2	2	1	3
Portland (Deering High).....	2	2	2	6
Portland.....	6	6	6	11
Portland (Westbrook Seminary).....	2	1	5	1
Presque Isle.....	0	0	0	2
Princeton.....	0	2	0	1
Rockland.....	2	1	0	3
Rockport.....	0	2	0	1
Rumford.....	1	2	1	1
Saco (Thornton Academy).....	2	1	2	3
Sanford.....	0	0	0	3
Searsport.....	0	0	0	2
Skowhegan.....	1	0	0	1
Solon.....	1	1	0	1
South Berwick (Academy).....	0	0	1	1
South Paris.....	3	2	0	1
South Portland.....	1	2	2	1
Southwest Harbor.....	0	0	4	1
Strong.....	0	0	0	2
Sullivan.....	0	0	5	2
Tenant's Harbor.....	0	0	1	0
Thomaston.....	1	2	0	3
Topsham.....	0	0	1	0
Vassalboro (Oak Grove Seminary).....	1	0	2	1
Vinal Haven.....	0	0	0	2
Waterville (High).....	1	0	1	2
Waterville (C. C. I.).....	4	6	7	7
Wells.....	0	0	0	1
Westbrook.....	2	1	1	7
Wilton (Academy).....	1	1	4	0
Windham.....	0	0	2	0
Winterport.....	0	0	1	2
Winthrop.....	1	0	0	2
Yarmouth.....	0	0	0	1
Yarmouth (No. Yarmouth Academy).....	7	2	3	5
York.....	0	0	0	1

In 1912, 54 freshmen entered the University from 31 schools that sent none in the years 1910-11, and in 1913, 69 freshmen entered from 47 schools that sent none in 1910-11.

An attempt is being made to study the effect, if any, of the new method of admission upon university standards. As a contribution to this study the following table is given showing freshman grades for the past four years, and also for the fall semester of 1913, arranged to show the results from the very small schools as compared with the larger. The comparison by years certainly shows no marked change in results. The comparison by schools for 1913 shows, as might be expected, a slightly inferior result from the smaller schools, but does not suggest any very severe criticism of those schools.

FRESHMAN GRADES—FIRST SEMESTER—1910-1913

YEAR	Honors	Pass	Low Pass	Conditioned	Failed	Incomplete	No. of grades
1910.....	25.0	30.0	24.0	11.0	4.0	6.0	1,257
1911.....	33.0	34.0	19.0	7.0	2.0	5.0	1,518
1912.....	29.0	35.0	19.0	8.0	4.0	6.0	2,133
1913.....	32.5	30.0	19.1	10.0	4.1	1.3	2,450
Average 1910-1911.....	29.0	32.0	21.5	9.0	3.00	5.5	2,775
Average 1912-1913.....	30.75	32.5	19.05	9.0	4.05	5.15	3,651
Maine, two teacher schools, 1913	26.8	28.9	24.5	12.8	4.0	2.9	273
Other Maine schools.....	35.1	30.9	17.6	8.7	4.0	3.7	1,651
Schools outside of Maine.....	35.7	30.0	15.3	8.5	4.5	6.0	526

From outside of Maine, there were admitted in 1912, 32 students from 29 schools, and in 1913 56 students from 49 schools.

The question is sometimes asked whether the students who find themselves unable to carry the work of the freshman year are not found to come from the smaller schools. During the year it was found necessary to drop 27 freshmen for poor records. Of 14 dropped at the end of the fall semester, three came from two-teacher schools, four from schools outside of the State, and the remaining seven from the larger Maine schools. Of the 13 dropped at the end of the year, two came from schools outside of the State, and all the others from the larger Maine schools, mostly schools that have for years held the certificate privilege.

Of 341 first year students registered in the fall semester of 1913, 54 did not return for the spring semester. The reasons for not returning were: dropped, 15; suspended, 2; left college too early to make record, 3; left on account of health, 13; to teach, 2; for lack of interest, 3; inability to carry the work, 7; financial reasons, 3; unknown, 6. Of the 10 who voluntarily withdrew because unable to carry the work, all but one came from schools having the certificate privilege.

COMMITTEE ON STUDENT AFFAIRS

The work of the committee on student affairs has been referred to incidentally in the statements regarding freshmen whose records called for action by that committee. The regulations adopted by the faculty two years ago providing that the freshman who does not pass 40% of his work for the fall semester, or 50% for the whole year, shall be dropped from the University has had the effect of increasing the number of first year men required to leave, and in decreasing the necessity for similar action for upper classmen.

STUDENT EXPENSES

The increased cost of living so generally felt has, undoubtedly, applied to student expenses, and it has been thought necessary to revise the bulletin on expenses and earnings issued in 1908. For this purpose a circular letter was sent to each member of the classes of 1912, 1913, 1914, and 1915, asking for a statement of expenses for each of the four years, classified under the headings tuition, laboratory fees, books, board and room rent, laundry, clothing, fraternity expenses, college organizations, and miscellaneous. They were asked to include under miscellaneous all expenditures except traveling to and from home. They were also asked to give their earnings during vacations and during the college year. Many of the men answered the questions with great care.

A few items may be of interest here. The total cost per year ranges from \$216 to \$835 with an average of about \$400 per year for non-fraternity men and \$500 a year for fraternity men. These figures are about 10% higher than those published six years ago as a result of a similar inquiry. This is probably no greater increase than there has been in the expenditures of the average family in the same period. Board and room in fraternity houses averages about \$40 per year more than at the dormitory. The remaining difference between the expenses of fraternity and non-fraternity men lies in the items of personal expenditure. Expenditures of men who take equally active part in student affairs do not depend much upon place of college residence. The replies indicate that the items of expenditure printed in our catalog are not underestimated.

FINANCIAL HELP FOR STUDENTS

Each year a considerable number of students leave college for lack of funds, and many desirous of admission fail to enter for the same reason. I wish to refer again to the question raised in my report of two years ago,—whether an effort should not be made to provide scholarships or a fund to aid such students. Scholarships, if given, should, of course, be awarded only to students who have made an excellent record in college or in school.

Respectfully submitted,

JAMES N. HART,
Dean of the University

REPORT OF THE DEAN OF THE COLLEGE OF AGRICULTURE

To the President of the University:—

I submit the following report of the College of Agriculture for the year 1913-14:

VOCATION OF GRADUATES

Percentage distribution of former students in agriculture according to present vocation:

Farming	60.6
Dairy Manufactures	2.3
Agricultural Implements and Supplies	1.1
Cow Test Associations	1.7
Agricultural Extension Work:	
General5
County Agents	2.4
Teaching:	
College	2.9
Secondary Schools	6.5
Agricultural Experiment Stations	2.0
Departments of Agriculture:	
United States	2.9
State	2.9
Agricultural Editors	1.2
Total in Agricultural Pursuits	87.0
Business	6.5
Professions	6.5
	100.0

It is very gratifying to report that such a large percentage of the graduates of the College of Agriculture are engaged in vocations for which their training gave special preparation.

DEPARTMENTS OF INSTRUCTION

Teaching Force: Four instructors were added to the teaching force during the year; one each in Agronomy and Forestry and two in Home Economics, but soon after the opening of college it became apparent that the department could not take care of its major students in a proper and efficient manner with the number of teachers available and it was necessary to employ another assistant. An extra teacher will be needed in Horticulture and one in Biological Chemistry for the year 1914-15 and recommendations have already been made to this effect.

Laboratories: The laboratory needs of the department of Home Economics having outgrown its accommodations in Winslow Hall, a part of the dwelling house, known as "The Maples," was assigned to the department and remodelled into suitable laboratories. This arrangement will take care of the needs of the department for several years when a separate building devoted entirely to the Home Economics work will undoubtedly be needed.

The capacity of the bacteriological laboratory was increased about fifty percent, using for that purpose a room formerly occupied by Home Economics.

Several departments are in need of laboratory accommodations of greater size and it is hoped that arrangements may soon be made to provide them. The laboratories coming under this class are: farm crops, farm machinery, horticulture, dairy and poultry husbandry.

Considerable improvement was made in the field laboratories used by the Horticulture, Forestry, and Agronomy departments. The gardens operated by the Horticultural department were relocated and established in a field near the greenhouses where they are capable of enlargement as need arises.

The last Legislature authorized the establishment of a Forest Nursery in connection with the University, and this has been provided for by the assignment of land in close proximity to the campus.

The area devoted to plot work connected with the Agronomy department was doubled in size. This will provide material for class use and will constitute one of the special points of interest to visitors to the University.

Equipment: Small additions were made to the class room and laboratory equipment of each department. Important additions were made to the live stock kept on the farm by the purchase of a foundation herd of Polled Angus. The herd was secured from the famous Escher herd of Iowa and consists of one bull and three young cows. These animals will be used by the department of Animal Industry for teaching purposes, and by the Experiment Station in the breeding experiments now being carried on in accordance with an act passed by the Legislature of 1913.

CURRICULA

Several important changes were made in the agricultural curricula by which certain courses were removed from the required list, thus allowing the student greater opportunity for specializing within the curriculum in which he is registered.

The demand for teachers of agriculture in secondary schools is growing and each year the College of Agriculture is called upon to recommend a greater number of its graduates to fill these responsible positions. The curriculum in agricultural education will be given careful study with the idea of making such revision as shall appear necessary.

Among the students taking major work in Horticulture a growing number desire to specialize in market gardening and landscape gardening, and the establishment of curricula in these lines will need to be

made within a few years. To meet the demands already being made upon it, the development of the Horticultural department will be so shaped that it will be able to offer such curricula when the time arrives for their establishment.

Requests for men trained in bacteriology and agricultural chemistry frequently come to the college office, although the demand is not so pronounced as for the special lines mentioned above.

SHORT COURSES

Short winter courses in general agriculture, dairying, horticulture, and poultry husbandry were given as usual.

A short course in sewing was offered by the department of Home Economics for the first time, with very gratifying results. This course was open to high school girls, and served the double purpose of giving the girls training in sewing and the senior students in Home Economics considerable experience teaching.

Attendance:

Short courses in agriculture	68
Short course in sewing	29
	—
Total attendance at short courses	97

FARMERS' WEEK

The annual Farmers' Week, besides being a short course in agriculture, has come to be recognized as one of the most important agricultural events in the State, and each year hundreds of farmers come from all sections of Maine to attend the lectures and demonstrations and to take part in the discussions. The program last winter comprised one hundred lectures and demonstrations, participated in by fifty speakers. The teaching force was made up of college teachers, experiment station experts, successful farmers, and women experts along various lines.

FARMERS' MEETINGS AT THE UNIVERSITY

It has become the custom among a considerable number of farmers' organizations to hold their field meetings and annual meetings at Orono. During the year the following organizations met here:

West Penobscot Pomona Grange	Field Meeting
Penobscot Pomona Grange	" "
Maine Live Stock Breeders' Association	Annual Meeting
Maine Short Horn Breeders' Association	" "
Maine Jersey Breeders' Association	" "
Maine Ayrshire Bheeders' Association	" "
Maine Holstein Breeders' Association	" "
Maine Guernsey Breeders' Association	" "
Maine Federation of Agricultural Associations	" "
Maine Association of Agricultural Students	" "

ZIBA ALDEN GILBERT TABLET

The second tablet to be erected in the "Agricultural Hall of Fame" in honor of a man who had distinguished himself in the promotion of Maine Agriculture was placed in Winslow Hall, Wednesday, March 11th, by the Maine Federation of Agricultural Associations. The Federation holds its annual meeting at Orono during Farmers' Week each year, and the dedication of the tablet constituted a very interesting part of its program. The entire afternoon was given over to the dedicatory exercises.

During his lifetime, Mr. Gilbert held many positions of trust and responsibility. Among the more important were: secretary of the State Board of Agriculture; trustee of the State College of Agriculture and Mechanic Arts; chairman of Experiment Station Council; president of the Maine Pomological Society; president of the Maine State Jersey Cattle Association; agricultural editor, *Maine Farmer*.

NEEDS OF THE COLLEGE

The College of Agriculture has many needs but I desire to bring to your attention only those needs that may be classed as very real and pressing.

First: *Cattle and Horse Barns*. The present cattle and horse barns on the University farm are open to the following criticism:

1. They are not sanitary and cannot be made so except with great expense.
2. They are not of sufficient size to accommodate the live stock now kept on the farm. It is well to point out, at this time, that if the Agricultural Experiment Station is to carry out the provisions of the act passed by the last legislature instructing the Station to undertake breeding experiments for the purpose of "Determining the Inheritance of Milk Production," the College will be compelled to rear all the young stock bred on the farm, and this plan makes immediately necessary additional housing accommodations.
3. They are not planned to economize labor.
4. They do not represent a type of barn construction that would be recommended to the farmers of the State by any competent authority.
5. They cannot be used for educational purposes with the large classes of students we have, except as examples of what ought not to be.
6. They have been condemned by the following farmers' organizations of a state wide character:

Maine Dairymen's Association
 Maine Live Stock Breeders' Association
 Maine Seed Improvement Association
 Maine Association of Agricultural Students
 Maine Federation of Agricultural Associations

All of these associations have passed resolutions recommending that the State make appropriations for the building of new cattle and horse barns.

Second: *Dairy Building*. The present dairy building is not of sufficient size to accommodate the students now taking the courses in dairying. A certain amount of dairy work is required, and ought to be, of all students in agriculture, and the College is confronted with the very disturbing fact that, if enlarged accommodations are not provided within the next year, either the requirement of some of the courses in dairying as a regular part of the agricultural curricula must be abandoned, or a considerable portion of the students must be excused from the requirement. Such action would meet with very serious objections on the part of the farmers of the State and will not be taken by the College unless it is forced to do so.

From the above statement it can be seen that the need for a new dairy building is a very real need and should be provided for.

Respectfully submitted,

LEON S. MERRILL,

Dean of the College of Agriculture

REPORT OF THE DEAN OF THE COLLEGE OF ARTS AND SCIENCES

To the President of the University:—

I submit the following report of the College of Arts and Sciences:

The College of Arts and Sciences is having a healthy growth. Much has been done during the past year to develop a proper spirit in this college. The occasional college meetings which have been held have tended to bring this about, and the faculty and students are a unit in urging their continuance. The various departments are working together harmoniously. The work of the department of Education with the teachers of the State, the movement inaugurated by the English department for the improvement of English teaching, and the new alliance with the State Normal Schools are bringing the work of this college before the people.

It has been voted by the faculty of this college that in order for a student to graduate he shall receive a grade of C or better in 95 hours of his work, which is practically three-fourths of his entire registration. While it seemed at first that it might be difficult to administer this rule it was found that it had the effect of stimulating students to more strenuous endeavor, and not a single student failed to meet the requirement last June.

Last year the Arts faculty voted to appoint a committee to arrange for more definite oversight over the freshmen of this college, and to see that they are given instruction regarding registration, and the choice of subjects, and other interests connected with their college life. It has been requested that the College of Arts and Sciences be permitted to hold a separate chapel occasionally so that these ends may be accomplished.

The following are the more important and pressing needs:

1. *Books.* No argument is needed as it is obvious to every one that books are necessary for good work in all college subjects.
2. *Equipment for the scientific departments.* Now that the Physics department has new quarters and the Biology department more space, each should have a special appropriation for equipment.
3. *Journalism.* Courses in journalism have been given during the last two years. They have been elected by so many students that further provision for their needs should be made.
4. *New departments.* When our financial condition warrants it, two new departments, Music and Geology, should be added. The addition of a department of Music would be of great advantage to the College of Arts and Sciences. The claims for a department of Geology have been presented many times and ought to be obvious.

Respectfully submitted,

JAMES S. STEVENS,

Dean of the College of Arts and Sciences

REPORT OF COLLEGE OF LAW

To the President of the University:—

I submit the following report of the College of Law for the year 1913-14:

The attendance at the College of Law for the past year was distributed as follows: Maine, 74; Massachusetts, 19; New Hampshire, 7; Vermont, 4; New York, 4; Connecticut, 3; New Jersey, 1; California, 1; Pennsylvania, 1; and Turkey, 1. The students from Maine were distributed among the counties as follows: Androscoggin, 2; Aroostook, 2; Cumberland, 14; Franklin, 1; Hancock, 4; Kennebec, 4; Knox, 2; Lincoln, 0; Oxford, 5; Penobscot, 29; Piscataquis, 1; Sagadahoc, 0; Somerset, 2; Waldo, 2; Washington, 2, and York, 4. Sixteen students were college graduates, representing ten different institutions. Seventeen students had had one or more years in college. Seven men had been students in other law colleges.

At the Commencement in June the degree of LL. B. was conferred upon 21 men and the degree of LL. M. on four. The College of Law graduates have been very successful in passing the bar examinations. During the last eight years no graduate has failed to pass the State examinations.

The gift to the College of Law of \$13,750 by Hon. D. D. Stewart, of St. Albans, in payment of the mortgage still resting on the building and thus securing for the University Stewart Hall free from debt or incumbrance, is the second large gift received by the College of Law since its existence. The other gift of \$20,000 came from the estate of the Honorable Levi M. Stewart, of Minneapolis. According to the vote of the Board of Trustees two years ago, no new applications for registration in the graduate course in absence have been accepted at the College of Law since June 1912, and thus graduate study in absence ceased in June of the present year. The abolition of this course of study in absence was a wise step. Its abolition, however, makes it necessary that provision be made for resident graduate study.

The Maine Law Review, about to begin its eighth year, and thus far maintained by the student body of the College of Law, could be closely associated with graduate work and with the University. Its columns could be devoted more than at present to legal research and to practical and theoretical inquiry into the principles and practices of legislation. Along these lines lie great opportunities for usefulness that should not be disregarded because the very first steps in this direction involve the assumption on the part of the University of greater responsibilities than at present.

The College of Law needs a large lecture hall suited for the meeting of all the students in a body and suited for public addresses. There is now in the building no room that will seat the students when called together. This need may possibly be met by removing the partition wall between the two recitation rooms to the right of the entrance to Stewart Hall.

Respectfully submitted,

W. E. WALZ,

Dean of the College of Law

REPORT OF THE COLLEGE OF TECHNOLOGY

To the President of the University:—

I submit the following report of the College of Technology for the year 1913-14:—

ORGANIZATION AND REGISTRATION

This college is made up of curricula in engineering, chemistry, and pharmacy. The inflated popularity of the technological curricula appears to be disappearing and the future is expected to show a continuation of the present healthy growth instead of the spasmodic tendencies of ten years ago.

During the past year the University published an "Alumni Bulletin" which contains much of interest bearing upon registration. Although the curves and tables contained therein are too voluminous to reproduce here, it is desired to call attention to them. These curves show that, although the percentage of students in this college to the whole University is gradually decreasing, in the past three years there has been an increase in the total number taking the technological curricula. Much additional class registration has also been caused by calls from the College of Agriculture for special courses in chemistry, drawing, surveying, shop work, highways, etc. Owing to requirements in chemistry and drawing being more or less common to curricula outside of this college, these departments have been taxed beyond their capacity for several years. Relief is now in sight, however, the new science building allowing the necessary expansion.

During the past three years the work of perfecting the college as an organized unit of the University has been carried forward with success. Although excellent work was done in previous years, when each department acted more or less independently, the present scheme of coöperation is resulting in much better economy and a pronounced improvement in the work.

ENGINEERING EXTENSION

Two principal topics of discussion in engineering institutions at present are engineering experiment stations and engineering extension work, both of which have been developed by some institutions to a considerable degree. We have not yet attempted to do much along the former line, as it has been felt that the first development should come along the latter.

For a number of years there has been a need for this work in the State of Maine. Since the formation of the Land Grant Engineering Association at Washington in January, 1912, much more attention has been paid to this phase of engineering education by institutions all over the country, and we have finally succeeded in forming a preliminary organization in this college which has begun work.

The extension work of the College of Technology has been directed along two general lines: coöperation with state commissions, municipalities, etc.; class room work conducted in places outside of Orono.

Coöperation with State Commissions, Municipalities, etc.

The Legislature of 1913 created a new State Highway Commission. The head of the department of Civil Engineering in the University of Maine has been appointed consulting engineer on bridges. During the past few months occasion has arisen for a considerable amount of bridge work and there is much more to be done in the future.

The Highway Commission has established its road materials testing laboratory at the University. By the aid of the Commission, the University has been able to procure the necessary equipment for a thoroughly equipped road materials laboratory. A considerable amount of testing of rocks, sands, gravels, and cements has already been done at the University. Plans are under way for a road materials survey of the State.

The State Water Storage Commission is asking our coöperation along certain lines, and we hope in the no distant future to be affiliated with the Railroad Commission.

What is true of the department of Civil Engineering should be extended to other departments in this college, as it no doubt will be in the near future.

Class room work conducted in places outside of Orono

Last spring plans were made to conduct classes in places away from Orono. As no funds were available for carrying on this work, it was decided to start the classes in Bangor. Accordingly, a class of about fifteen was held in mechanical drawing twice a week for a period of twelve weeks and a class in electrical engineering, about eight in number, for the same period. Much enthusiasm was shown by the students, most of whom desire to continue the work next fall.

The department of Chemistry has had a class of fifteen in fuel testing in one of our large pulp mills. This class met for a series of three lectures.

Some of our engineering students conducted classes during the past semester among Italians in some of the mill communities. They taught writing, reading, and arithmetic. It is felt that the students obtained much benefit from this work in getting in touch with the laborer and in learning his point of view. They reported successful classes and much interest upon the part of their scholars.

In the fall of 1914 we are planning to continue the work already begun and to extend it to at least one or two industrial centers. We are sure of an enthusiastic response.

NEEDS

The needs of this college are many. Although the principles underlying the technological curricula remain nearly constant, new applications of these principles require a continuous change and advance in methods. New apparatus, and teachers who are specialists in their subjects, must be procured if we are to keep pace with the times. So many institutions are spending large sums upon their equipment, buildings, and faculty, that we must improve or we will rapidly fall behind.

Another handicap has been the lack of suitable space in which to carry on our work. Modern methods demand radically different buildings and space from the old ideas. With the new science hall now nearing completion, Chemistry and Pharmacy will be very comfortably quartered in a modern building, which will fill a long-felt need. Engineering has been housed in two comparatively small buildings, which have long since been outgrown in both space and modern accommodations. The removal of the department of Physics will be of assistance to the department of Civil Engineering, but neither building is now suited to the needs of a modern arrangement of curricula in engineering. Both of these buildings could readily be used for other purposes, and a new building should be provided in which all engineering could be contained, thus allowing a modern arrangement of laboratories and equipment.

If such a building is not in sight for a number of years, it is very imperative that extra laboratory space be provided at once for the departments of Mechanical and Electrical Engineering, as these two departments are in a congested condition, without any relief in sight. Plans have been prepared for a unit building to contain laboratories and testing machinery, and it is hoped that at least one section of this building can be built ready for use in the fall of 1915.

There is great need of a fully equipped modern hydraulic laboratory. The State of Maine is noted for its water powers. It ranks third in the Union in developed power, although only one-third of the available power is developed. A hydraulic laboratory should include a power house equipped with the necessary machinery for use of the engineering departments. This should be located upon its own power site and should be under the direction of men experienced in hydraulic and electrical engineering.

Respectfully submitted,

H. S. BOARDMAN,

Dean of the College of Technology

REPORT OF THE LIBRARIAN

To the President of the University:

I submit the following report of the university libraries:

The growth of the libraries during the biennium covered by this report is shown by the following table:

	Volumes added	Value	Total volumes	Total value
General Library	5,166	\$7,509 53	45,990	\$53,248 66
Law Library	649	1,739 42	4,126	10,341 49
Agricultural Experiment Sta- tion Library	484	1,799 64	4,078	14,024 41
Totals	6,299	\$11,048 59	54,194	\$77,614 56

GENERAL LIBRARY

During the year 1912-13 the number of books charged at the delivery desk was 7,920, while in 1913-14 it was 9,678, an increase of over 22 per cent for the year. No record is kept of the books used in the library, as there is not only free access to reference books but to those in the stacks also. Certain books are "reserved" for class use, and kept in a room back of the delivery desk to which students do not have access. In order to obtain some definite idea of the use made of these "reserved" books, which may not be taken from the Library except during the hours when the building is closed, a record was kept for one month during which the use of 1,195 was recorded by the desk assistant.

Of the 5,166 volumes added, 3,271 were secured by purchase, 1,110 by binding, and 785 by gift. 137 volumes were rebound.

Serial sets added included the following: American Journal of Education, 31 v. (complete set); American Journal of Science and Arts, v. 83-91; British Journal of Psychology, v. 1 (1904-05, to date; Chemical Abstracts, v. 1-5 (completing set); Common School Journal, v. 1-10; Contributions to Education, Teachers College Series, v. 38-53; Jahresbericht der Chemie, 1847-1904; Jahresbericht die Reinen Chemie, 1873-81; Jahresberichte für Neuere Deutsche Literatur-geschichte, v. 1, (1900) to date; Journal of English and Germanic Philology, v. 1-8 (completing set); Journal of the Society of Chemical Industry, v. 1-21 (completing set); Mind, v. 1-16, and New Series 1-8 (completing set); Modern Language Review, v. 1 (1906) to date; Nation, 19 v.; National Conference of Charities and Corrections, Proceedings, 1895 to date; National Educational Association, Proceedings, 19 v. (completing set); Nature, 1. 1-7; North American Review, 54 v. (nearly completing set); Publications of the Modern Language Association, 13 v.; Pflüger's Archiv, 1900 to date; Sanitary Engineer, and Engineering Record, 25 v. (completing set from v. 5); Shakespeare Society, Publications, 47 v. (complete set); Western Electrician, 21 v. (completing set); Zeitschrift für Elektrochemie, v. 1 (1894-5) to date.

Important reference works included: Rand-McNally's Library Atlas, 2 v.; Webster's New International Dictionary; Funk & Wagnall's New Standard Dictionary; Oxford Dictionary, v. 8; Wright's Dialect Dictionary, 6 v.; Handwörterbch der Naturwissenschaften, v. 1-9; Raymond's Cyclopedia of Modern Shop Practice, 4 v.; Champlain's Cyclopaedia of Painters and Paintings, 4 v.; N. Y. Times Index, 1913.

Among the more important departmental purchases were: Allen's Commercial Organic Analysis, ed. 4, v. 2, 3, and 8 (completing set); Diderot, Oeuvres Completes, 20 v.; Gervinus, Geschichte der Deutschen Dichtung, 6 v.; Hazen's Atlas Stellarum Variabilium, 6 v.; Muther's History of Modern Painting, 4 v.; Voltaire, Oeuvres, 72 v.; Weathers's Commercial Gardening, 4v.; Winkelmann, Handbuch der Physik, v. 1, 2, 6 (completing set); Wordsworth's Poetical Works, ed. by Knight, with Life, 11 v.

The gifts to the library were from many sources, making too long a list to publish. No large gifts from individuals were received.

Although it has been possible to build up an excellent working library, we have not yet succeeded in having at the University of Maine such a collection as is needed. The cost of maintaining our present periodicals and serials is about \$1,000 a year, and this amount should increase gradually. Binding and supplies will cost more than another thousand, and the amounts necessary for these will also increase. Up-to-date reference books must be added constantly, and every one of our thirty departments needs to fill in gaps now existing and to purchase the important books as published.

The work of every department of the University is dependent in large measure upon the library facilities. Institutions everywhere are judged, and judged fairly, by their libraries. If the work of the

University of Maine is to be maintained at the standard the welfare of the students demand, more liberal appropriations for the library must be forthcoming. The needs of departments will vary with the fields they cover, but an average of \$150 a year is little enough for their use. This would require, for the 30 departments we now have, \$4500 a year, in addition to the amount necessary for the periodicals, binding, supplies, reference books, and miscellaneous publications that do not fall within the scope of our departments of instruction. The sum of \$7,500 a year is little enough for a library that is obliged to cover the field required at this institution. And this amount would not permit the use of such a sum as we should have for building up a collection of scientific and technical periodicals that the development of the University will need.

Four years ago, and again two years ago, mention was made in my report of the approaching need for an addition to the Library Building. When the present building was planned, in 1905, it was estimated that it would furnish accommodations for ten years, when further provision would be required. Nearly nine years of this time have elapsed, and within another year it will be necessary either to increase the stack space or to begin to box up books which should be on the shelves. The increase in the student body will soon lead to overcrowding in the reading rooms. I ask that a plan be made to provide for an addition to the Library Building within the next two years.

LAW LIBRARY

Of the 649 volumes added, 598 were secured by purchase, 34 by gift, 15 by binding, and two by exchange. The value of the library is placed at \$10,341.49, an increase of \$1,739.52 in two years.

Of the books obtained by purchase, a set of English Ruling Cases, 26 v., the Harvard Law Review, v. 1-38, and the Encyclopedia of Forms and Precedents, 18 v., were purchased from the Southard fund, to which Hon. L. C. Southard has continued to turn over the fees received for his services as Lecturer in the College of Law. An important periodical set added was the American Law review, v. 1-46.

The action of the trustees of the University at their June, 1914, meeting in directing that the income from the Levi M. Stewart fund of \$20,000 be used for the law library will, with the amount already received from that portion of student fees assigned to the Law Library, make it possible to build up a collection which will be creditable to the College of Law, to the University, and to the State of Maine, and one which will be of value not only to students and faculty, but to the members of the legal profession as well.

The first purchase from the Stewart fund was a set of United States Reports, official edition, the earlier part of which was acquired by Justice Nathan Clifford, for 23 years a member of the Supreme Court of the United States, and the only resident of Maine that has ever

been appointed to this high office. Many of these volumes contain Justice Clifford's book plate and autograph. The set was continued by Justice Clifford's son and grandson, both members of the bar of this state. The Law Library has also arranged for the purchase of several hundred miscellaneous text-books from the Clifford library, mainly relating to the principals and development of law, a considerable number of which are out of print and scarce. The first use of this fund, in the purchase of books which have such historic associations, seems particularly happy. The transaction which covers the miscellaneous volumes falls into the next fiscal year.

I ask your consideration of the possibility of erecting upon the College of Law lot a library building which will provide suitable accommodations for present needs and for the library which is to be built up. The erection of such a building will not only give a suitable building for the Law Library, but through vacating rooms now used will give the College of Law accommodations needed for other purposes.

The gifts received, in addition to the purchases from the Southard fund, have been as follows: Allegheny County Bar Library, 1; American Bar Association, 2; American Law Book Company, 1; Idaho State Library, 5; Illinois State Library, 7; Illinois Supreme Court, 1; Lawyers Coöperative Publishing Co., 1; Loring, Short & Harmon, 1; Maine Law Review, 2; Maine State Library, 7; Michigan State Library, 10; Republic of Uruguay, 1; Judge W. M. Warren, 2; Dean Walz, 1.

One hundred and six volumes were rebound.

AGRICULTURAL EXPERIMENT STATION LIBRARY

The Station Library, with the exception of volumes required for constant reference in the offices of the Station staff, was moved from Holmes Hall to the Library Building during the Spring recess of 1913. This places on the shelves in the General Library the valuable sets of periodicals which belong to the Station. The Station books are available for use in the Library, but may not be taken from it without special permission, except by members of the Station staff.

Orders for the Station Library do not go through the hands of the Librarian, nor do the bills for their purchase. Periodical records, binding, and other details are cared for by members of the Library staff.

Respectfully submitted,

RALPH K. JONES,

Librarian

REPORT OF THE PROFESSOR OF MILITARY SCIENCE AND TACTICS

To the President of the University:—

I submit the following report of the Military department for the year 1913-14:

The work of the year began on September 17th, with a freshman class of 221, and with about 150 sophomores; five members of the senior class and 10 of the junior class elected courses and from these the officers of the battalion were selected.

The first part of the year was devoted to the first principles of the training of a soldier. During this part of the year a large number of days were lost on account of rain. From the first of November and until the latter part of April the instruction consisted of recitations, drills in the Gymnasium, and gallery practice, dividing up the time among the different companies. From the latter part of April until the end of the year, June 8th, the instruction was devoted to practical work in the field. This included practice marches, advance and rear guard, and out-post work. This was a new feature tried for the first time this year, and it was found that the students were much interested. The idea was to give them the merest fundamentals in the kind of work which would be required of them in actual warfare.

During April the annual Military ball was given, being proceeded by different drills by each company. The work of all the companies was very good.

As a feature of the Commencement exercises the battalion gave a review for the Governor, and then had a competitive drill. Two officers of the Maine National Guard acted as judges of the drill and having decided that E. Company did the best; this company was presented with a banner given by the University.

In the year 1912-13, the battalion became a member of the National Rifle Association. Practice commenced at the beginning of this year and the team won seven out of eleven matches. Shooting should be encouraged. As there is no out-door range available all the work must be done in the gallery.

The annual inspection by an officer of the regular army was held on May 19th, and while this was a week earlier than the one last year the battalion presented a very creditable appearance.

Respectfully submitted,

RALPH R. GLASS,

1st Lieut., 21st Infantry,

Professor of Military Science and Tactics

REPORT OF THE PROFESSOR OF PHYSICAL CULTURE

To the President of the University:—

I submit the following report of the department of Physical Culture for the year 1913-1914:

In addition to the physical culture required of freshmen, three hours a week, two hours gymnasium and one hour lecture, advanced elective courses are offered upper classmen. 457 students registered for work in this department during the past year.

The University football team won the State championship, and had the distinction of holding Yale to a tie score.

Our cross country team won the State championship; won a dual meet with Dartmouth, and also won the championship of New England.

Our track team was victorious,—winning the championship of the State, and took second place in the New England meet.

Our intra-mural sports are prospering. Additional tennis courts have been provided, also a new baseball diamond. A concrete grand stand, seating 2100 people, will be built on the athletic field the present vacation.

Respectfully submitted,

EDGAR R. WINGARD,

Professor of Physical Culture.

REPORT OF THE DIRECTOR OF THE MAINE AGRICULTURAL EXPERIMENT STATION

To the President of the University:—

I submit the following report of the Agricultural Experiment Station for the year 1913-14:

INSPECTION

By an act of Legislature, the Director of the Station was relieved of the duties of administering the laws regulating the sale of agricultural seeds, apples, commercial feeding stuffs, commercial fertilizers, drugs, food, fungicides, and insecticides. The act became effective January 1, 1914. The Commissioner of Agriculture became the executive officer of the above named laws on that date. It is still the duty of the Experiment Station to make the analyses and publish the results. These are published in a series called Official Inspections. During the year ending June 30, 1914, ten numbers aggregating 166 pages were published.

INVESTIGATION

The work of investigation is conducted by the departments of Biology, Entomology, and Plant Pathology. The field experiments with fertilizers, crop management, etc., are under the direct oversight of the Director. The laboratories and poultry plant at Orono, Aroostook Farm at Presque Isle, and Highmoor Farm at Monmouth are used for the work of investigation.

During the year there was purchased by State appropriation supplemented by money raised by the citizens of Presque Isle an experimental farm for the use of the Station in Presque Isle. This farm is called Aroostook Farm. It contains 275 acres, about half of which is cleared. It will be used for investigations bearing directly upon the agriculture of Aroostook County.

Also during the year there became available an annual appropriation by the State of \$5,000 for investigations in animal husbandry. At present this work is confined to studies in animal breeding. Cross breeding work with the University herd is well under way. The statistical study of advance registry records is proceeding as rapidly as is consistent with accurate and critical work. The preparation of pedigrees for the study of the effects of inbreeding in the Jersey and Holstein breeds is going forward steadily. It is always to be remembered that quick results cannot be obtained in cattle breeding work.

The results of the work of investigation are published in the bulletins of the Station and in scientific journals. During the year ending June 30, 1914, fifteen bulletins, containing 334 pages, were published. Papers aggregating about 250 pages were published in scientific journals. The annual report for 1913 (594 pages) contains the account of the work completed during that year. The publications of the Station are sent free to residents of the State and to libraries and scientific workers outside of the State. To other non-residents a nominal charge is made.

Respectfully submitted,

CHAS. D. WOODS,

Director of the Maine Agricultural Experiment Station

REPORT OF THE DIRECTOR OF THE AGRICULTURAL EXTENSION SERVICE

To the President of the University:—

I submit the following report of the Extension Division of the College of Agriculture for the year 1913-14:

The function of the Agricultural Extension Service of the University is to give instruction and practical demonstrations in agriculture and home economics in the several communities of the State, to persons not attending or resident in the College of Agriculture.

The Extension Service is organized on what is known as the "project" plan and in this brief description of the work for the year the more important projects will be discussed separately.

LECTURE SERVICE

	Number	Attendance
Lectures in 1912-13	243	23,900
Lectures in 1913-14	436	43,150
	<hr/>	<hr/>
Increase	193	19,250
Percentage of increase	79.4	80.5

CORRESPONDENCE SERVICE

The "advice by mail" service of the College of Agriculture has grown very rapidly during recent years. The people of the State are depending more and more upon the University for expert advice along agricultural and home economics lines. More than fifteen thousand letters were written by members of the agricultural faculty in 1913-14 in reply to letters of inquiry.

CORRESPONDENCE COURSES

Nine courses dealing with various lines of agriculture and home economics are offered. Seventy-five new students were registered in these courses.

PUBLICATIONS

The monthly bulletin, "Timely Helps for Farmers," was published regularly throughout the year. This bulletin was sent to the regular mailing list which contains about 3500 names.

Many articles on agriculture, home economics, and forestry subjects were prepared by members of the faculty and furnished to the newspapers of the State for publication.

EXTENSION SCHOOLS

Fourteen Extension Schools, of three days' length, were held, with a total attendance of 3132. The schools were equally divided between apple packing, dairying, and soils and fertilizer schools. Plans are being made to offer a poultry school in addition to the ones named and to hold as many of each as the instructors and funds available will permit. The Extension schools are conducted on the "laboratory plan" and have proved very effective as a means of setting agricultural truths at work.

WORK WITH YOUNG PEOPLE

Considerable progress has been made in the organization of Boys' Potato Clubs, Girls' Canning Clubs, and Poultry Clubs for both boys and girls. Clubs have been formed in thirty towns located in ten different counties. These clubs are working under local leadership, supplemented by the advice and assistance of the State Leader of the work.

The people of the State are interested in the movement and public spirited men have contributed money to provide prizes to be competed for in the local and State contests.

A State exhibition of the products grown by the local club members will be held at the University in December, at which time an educational program will be provided for the members in attendance. Very low transportation rates will be given over the Maine Central and Bangor and Aroostook railroads for this meeting.

It is planned to do more aggressive work in the organization of girls' clubs the coming year and a woman will be placed in charge of the work as State Leader of Girls' Clubs.

The work for the year 1913-14 was supported by a fund of \$2500 contributed by the General Education Board. The amount available from the same source for the support of the club work the coming year will be \$5000.

FARM DEMONSTRATION WORK

Farm Demonstration Work consists of actual demonstrations of "modern farming" methods on farms owned and operated by farmers who derive their principal income from farming, and it is supplemented by such educational work as may be necessary to insure the spread of influence from the demonstration farms to other farms.

"Timely Helps for Farmers." Vol. 7, No. 9, "Farm Demonstration Work in Maine," contains a report of the work for 1913 and therefore details will not be entered into in this report.

FARM DEMONSTRATION STATISTICS

TABLE I
ORGANIZATION OF DEMONSTRATION WORK.

COUNTY	List of agents in charge	Kinds of demonstrations
Cumberland.....	E. M. Straight.....	Market gardening
Kennebec.....	Arthur L. Deering.....	General farming
Oxford.....	George A. Yeaton.....	Orcharding
Washington.....	Clarence A. Day.....	Potato and grain growing
Penobscot.....	Maurice D. Jones.....	General farming
Hancock.....	George N. Worden.....	Market gardening, fruits, and poultry

TABLE II
DEMONSTRATION TOWNS, DEMONSTRATORS, AND DEMONSTRATIONS
BY COUNTIES

COUNTIES.	No. towns	No. demonstrators	No. demonstrations
Cumberland.....	8	25	25
Hancock.....	3	11	11
Kennebec.....	6	27	27
Oxford.....	8	35	46
Penobscot.....	12	32	41
Washington.....	12	30	45
Totals.....	49	160	195

The Demonstration Work of the past year has been supported from a fund, amounting to approximately \$12,000, provided by the General Education Board. This fund has been increased to \$14,500 for the year 1914-15. The results secured indicate that it is probably the most effective form of Extension Service thus far established.

An effort will be made to extend the Farm Demonstration Service to other counties as rapidly as funds can be secured for its support.

The passage of the Smith-Lever Act by Congress makes available an annual appropriation of \$10,000 for extension work in Maine. This appropriation will provide funds for the extension of the demonstration work into three additional counties at once. Other provisions of the act open the way for the establishment of similar work in every section of the State.

Respectfully submitted,

LEON S. MERRILL,

Director of the Agricultural Extension Service

The Maine Bulletin

Entered at the Post Office at Orono as second-class matter

Published monthly during the academic year

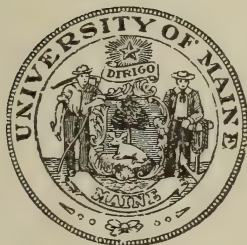
Vol. XVIII University of Maine, Orono, Maine, November, 1915 No. 3

ANNUAL REPORT

of the

UNIVERSITY OF MAINE

For the Year Ended June 30, 1915



Printed for the University

WATERTOWN SENTINEL PUBLISHING COMPANY

WATERTOWN, MAINE

1915

CONTENTS

Report of the President of the Board of Trustees	3
Report of the President of the University	4
Report of the Treasurer of the University	7

REPORT OF THE PRESIDENT OF THE BOARD OF TRUSTEES

To the Honorable Governor and Council of the State of Maine:—

I have the honor on behalf of the Board of Trustees of the University of Maine to report that another year of prosperity at the University has closed.

An increased number of students shows the continued interest of our people in the useful courses of instruction given at this institution. Through the generous appropriations of the last Legislature, we shall be enabled to complete the new women's dormitory and to erect a new barn at the farm. A new boiler has been added to the heating plant and many other needed repairs have been made. The reports of the President and Treasurer of the institution will show in detail the progress made and the financial standing of the University to which your attention is respectfully directed.

Respectfully submitted,

S. W. GOULD,

President of the Board of Trustees

REPORT OF THE PRESIDENT OF THE UNIVERSITY

To the Board of Trustees of the University:—

I submit the following report for the year 1914-15:

The past year has been a prosperous one. The total enrollment reached 1,129. This number does not include those in attendance at the short winter courses. There were 934 regular candidates for degrees. This is an increase of 86 over the preceding year. At the Commencement in June, 162 degrees were awarded. The attendance from the State is well distributed, all counties being represented. The total from within the State is 906, or a little more than 80% of the entire registration.

At the opening of the college year, 334 regular freshmen were admitted. Of these, 75% were admitted without any conditions. More than 14 units for entrance were presented by 92% of them. During the year, it was found necessary to drop 18 members of the freshman class because of their failure to do the proper grade of work. It is gratifying to note that the freshman grades for the year show considerable improvement over the grades for the preceding year.

Our plan of admission from "Class A" schools of Maine by the school record has been in operation long enough to justify itself. The fact that most schools maintain two standards, one for those who expect to go to college upon certificate and the other for those who do not, presents a difficulty in the administration of this plan of admission. The University believes that there should be one standard maintained and that all high school pupils should be required to meet this standard. This seems to be right because those who complete their school education in the high school certainly need the discipline that comes from good standards as much as those who go to college.

The College of Arts and Sciences is the foundation college of the University. In this college all the students of the University receive their instruction in English, the languages, mathematics, biology, philosophy, physics, history, economics, and education. Besides doing this foundation work for all the students, the college maintains strong courses leading to the B. A. degree. It is gratifying that it is growing rapidly. All students in this college are required to maintain a grade of "C" or better in three-fourths of their work. This requirement is having a wholesome effect upon student habits. The Department of Education, in connection with the State Superintendent and representatives of other colleges of Maine, has carried on extension courses in several localities. The Department of English has organized a School Discussion League which is doing good work. The courses in journalism are developing along important and useful lines. A very successful newspaper institute was held at the University in May.

The College of Agriculture shows a growth over last year. A very marked increase of interest in the Department of Home Economics is seen. Important progress has been made in developing the work in floriculture and landscape gardening. Hereafter the requirements for admission to the College of Agriculture will include two units in any foreign language instead of two units of a modern language only as heretofore. Another important change is that hereafter all students who expect to graduate in Agriculture will be required to have practical farm experience. This will be measured in terms of proficiency rather than in terms of time. The State Forest Nursery, under the direction of the Department of Forestry, is being rapidly developed. In the spring of 1916 a large supply of forest tree seedlings will be available for distribution.

Extension work in the College of Agriculture is growing rapidly. The Smith-Lever Act, which has been accepted by the State, enables the University to extend this work. The annual increase in appropriation given by the General Education Board also helps in meeting urgent needs. The Extension Service during the past year has included farm demonstration work in nine counties, poultry demonstration in all the counties, 28 extension schools held in 10 counties, more than 500 lectures and demonstrations, correspondence courses, advice by mail, and exhibitions at fairs and conventions.

The completion of Aubert Hall has made it possible for the various departments of the College of Technology to have better accommodations than heretofore. The new building has particularly benefited the Department of Chemistry, making possible considerable development of the courses in pulp and paper making. These courses have attracted very favorable attention in all parts of the country, particularly from the paper and pulp manufacturers. The cooperation of the College of Technology with the State Highway Commission is going steadily forward with the prospect that much excellent service will be rendered to the State. The Department of Electrical Engineering has installed a first class wireless telegraph station. This station is a valuable asset in the teaching of wireless telegraphy. The Department of Pharmacy has shown a healthy growth and has increased and strengthened its curriculum.

The College of Technology has entered two new fields of service. Considerable work has been done during the past year in conducting extension courses in various scientific subjects. This work will be extended and further developed during the coming year. At the June meeting of the Board, plans were approved for the organization of an Engineering Experiment Station. It will be the purpose of this station to carry on investigations of value to the people of the State and to distribute scientific knowledge in usable form.

The College of Law has had a successful year. Of the 94 students in attendance, 70 were from the State of Maine, the others coming from Massachusetts, New Hampshire, Vermont, New York, Connecticut, Rhode Island, Virginia, Canada, and Turkey. All the counties of

Maine were represented. There were in attendance nine college graduates and 19 other students who had had one or more years of college training. I believe that we should immediately make plans to require at least two years of college work as a pre-requisite for entrance to the College of Law. Beginning with the opening of College in 1915, the calendar of the College of Law will coincide in every particular with the calendar of the other colleges of the University. This is a most desirable change.

The Agricultural Experiment Station is carrying on extensive experiments at the University and at Highmoor and Aroostook Farms. Since January 1, 1914, the station has been relieved from the duty of enforcing the pure food laws. This is greatly appreciated. It has enabled the station to devote all its energies to scientific work.

Because of our financial condition, but little money was available for the University Library. There were added, however, a total of 2,524 volumes. Of these, 1,240 were acquired by purchase, 345 by binding, and 929 by gift. The total number of volumes in the Library at present is 56,673. It is gratifying to note that the use of the Library is increasing. More than 11,000 volumes were taken out by readers. The increase in the use of reserved books at the reading tables of the Library has been very marked. There is urgent need of liberal appropriations for books, if the Library is to continue to develop as it should.

The Legislature of 1915 made an annual appropriation for maintenance of \$122,500. It also appropriated \$40,000 for the completion of Balentine Hall and \$25,000 for the construction of new dairy barns. These appropriations became effective July 3. It is hoped that considerable progress upon the construction of the buildings will be made during the fall months.

The Legislature very wisely fixed the tuition at \$100 for all students coming from without the State. In harmony with this law the Board of Trustees have ordered that out-of-State students shall pay annually a registration fee of \$10, an incidental fee of \$20, and a tuition fee of \$100, making the total charge \$130. It is hoped and believed that the change in tuition will not materially decrease the number of out-of-State students.

If the University is to continue in the development of lines of service for the State and keep its academic work at a high standard, it will be necessary to enlarge to a considerable degree the yearly budget. There are a number of lines of service and activity in which the University should enter now if money were available. I mention only a few of these: the rapid development of newspaper work, the extension of courses in hydraulic engineering, the establishment of departments of Geology, Music, and Commerce, the state wide investigation of farm economics, and the immediate development of a strong Engineering Experiment Station.

Respectfully submitted,

ROBERT J. ALEY,

President of the University of Maine.

REPORT OF THE TREASURER

University of Maine

FOR THE FISCAL YEAR ENDED JUNE 30, 1915

To the Board of Trustees of the University:—

I submit herewith the report for the year ended June 30, 1915:

ASSETS

Trust Fund Investments:

Coburn Trust Fund	Schedule A	\$100,000 00	
U. S. Land Scrip Fund	Schedule A	118,300 00	
Levi M. Stewart Fund	Schedule A	20,000 00	
David D. Stewart Fund	Schedule A	13,750 00	
Nehemiah Kittredge Loan Fund	Schedule B	1,516 52	
Kidder Scholarship Fund	Schedule B	750 00	\$254,316 52

Lands and Buildings	Schedule C	648,131 63	
Inventories	Schedule D	250,250 08	
Accounts Receivable	Schedule E	25,645 14	
Appropriation, State of Maine	Schedule F	6,250 00	
Bills Receivable	Schedule G	2,000 10	
Cash on hand, June 30, 1915	Schedule H	1,876 89	
			<u>\$1,188,470 36</u>

LIABILITIES

Trust Funds:

Coburn Trust Fund	\$100,000 00	
U. S. Land Scrip Trust Fund	118,300 00	
Levi M. Stewart Trust Fund	20,000 00	
David D. Stewart Trust Fund	13,750 00	
Nehemiah Kittredge Loan Fund	1,516 52	
Kidder Scholarship Fund	750 00	\$254,316 52

Bills Payable	Schedule I	34,000 00	
Accounts Payable	Schedule J	74,841 89	
Surplus		825,311 95	
			<u>\$1,188,470 36</u>

SCHEDULE A—ASSETS

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, dated Feb. 5, 1889, due July 1, 1917, bearing interest at 4% per annum, of the par value of.....

\$100,000 00

United States Land Scrip Trust Fund Investment:

Under the provisions of An Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has realized an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1889, due July 1, 1915, bearing interest at 5% per annum, of the par value of\$118,300 00

Levi M. Stewart Fund Investment:

This represents a fund received from Hon. David D. Stewart, executor and residuary legatee of Levi M. Stewart, late of Minneapolis, Minnesota amounting to\$20,000 00

By special permission of the donor, this fund is temporarily invested as a part of the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall.

David D. Stewart Fund Investment:

The gift of Hon. David D. Stewart of St. Albans, Maine, for the purpose of retiring notes of the University of Maine representing the balance remaining unpaid on the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall, amounting to

\$13,750 00

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same loans are made to needy students in the three upper classes. It is now invested as follows:

Twenty-nine promissory notes, signed by present and former students of the University, aggregating, exclusive of accrued interest....\$1,381 98
On Deposit in Bangor Savings Bank, Book No. 45602134 54

\$1,516 52

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, of Denver, Colorado, Class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, amounting to.....\$750 00

This fund is on deposit in the Bangor Savings Bank, as shown by Book No. 45603.

SCHEDULE C—ASSETS

Lands & Buildings:

Alumni Field	\$1,000 00
Alumni Hall	33,979 80
Aubert Hall	78,350 99
Balentine Hall (partially completed)	23,882 80
Balentine Hall Annex	4,925 73
Campus & Farm Lands	11,000 00
Library Building	50,985 06
Carpenter Shop	2,491 43
Coburn Hall	28,203 80
Estabrooke Hall	6,000 00
Faculty Houses	26,235 65
Farm Buildings	25,955 14
Fernald Hall	30,000 00
Hannibal Hamlin Hall	55,707 02
Heating Plant	58,554 92
Horticultural Building	2,500 00
Infirmery	700 00
Janitor's House	1,000 00
Kappa Sigma House	5,400 00
Locomotive House	200 00
Lord Hall	38,337 48
Mount Vernon House	3,500 00
Oak Hall	40,000 00
Observatory	500 00
Old Pumping Station	1,200 00
Power House	1,000 00
Stewart Hall	33,750 00
Sigma Nu House	3,500 00
Stock Judging Pavilion	4,292 46
Store House (Old Art Guild)	900 00
Store House	500 00
Waiting Room	226 97
Wingate Hall	25,143 03
Winslow Hall	45,207 85
Woodward Farm	3,000 00

\$648,131 63

SCHEDULE D—ASSETS

Inventories:

Advertising	\$202 77
Balentine Hall	2,811 21
Biology	10,257 83
Care of Buildings	279 15
Commencement	372 34
Chemistry	20,560 95
Civil Engineering	9,620 95
Commons	1,814 15
College of Agriculture:	
Postage, Printing, and Stationery	166 21
Sundry Supplies & Misc.....	1,837 44
Equipment	21,246 30
Cows	6,085 00
Horses	2,685 00
Poultry	2,376 95
Other Live Stock	562 00
Feed	1,857 42
Fertilizer, Seeds, etc.....	65 33
Diplomas	87 02
Economics & Sociology	14 10
Electrical Engineering	8,794 32
English	220 50
Greek and Classical Archaeology	1,393 60
Hannibal Hamlin Hall	1,902 54
History	34 00
Hospital	47 20
Inn	2,656 10
Insurance	2,625 09
Latin	18 50
Laundry	268 00
College of Law	1,425 60
Law Library	11,666 56
Library	62,620 54
Locker Account	909 00
Mathematics & Astronomy	4,253 00
Mechanical Engineering	23,794 48
Mechanics and Drawing	1,785 55
Military Science	520 62
Mount Vernon House	1,240 72
Mount Vernon House Annex No. 1	704 58
Museum	10,975 04
Oak Hall	1,458 24
Office Supplies and Postage	298 50
Pharmacy	587 40
Philosophy	304 55

Physical Training	1,825 33
Physics	8,046 84
Power, Heat, Light, Water, and Grounds:	
Supplies	3,049 03
Coal	4,193 40
Repairs to Buildings	1,551 26
Furniture and Fixtures	8,178 47
	<hr/>
	\$250,250 08

SCHEDULE E—ASSETS

Accounts Receivable:

This account represents funds due the University as follows:

Student Accounts	\$1,445 54
Experiment Station	20,555 67
Other General Ledger Accounts	3,643 93
	<hr/>
	\$25,645 14

SCHEDULE F—ASSETS

State of Maine, Appropriation:

Amount due the University, under the provisions of the laws of 1915,
on account of Appropriation for Maintenance\$6,250

SCHEDULE G—ASSETS

Bills Receivable:

Represents seventy-one (71) promissory notes, signed by present
and former students, given the University in settlement of tuition fees,
term bills, etc., aggregating\$2,000 10

SCHEDULE H—ASSETS

Cash Balance, June 30, 1915:

On Deposit, Merrill Trust Co., Bangor, Maine	\$66 41
On Deposit, Old Town Trust Co., Old Town, Maine ...	41
Cash Drawer	1,810 07
	<hr/>
	\$1,876 89

Cash on hand June 30, 1914	\$1,605 80
Total receipts for year	520,657 70
	<hr/>

	\$522,263 50
Less total disbursements for year	520,386 61
	<hr/>
	\$1,876 89

SCHEDULE I—LIABILITIES

Bills Payable:

Note No. 29	Merrill Trust Co., Bangor, Me., Demand	\$10,000 00
30	Merrill Trust Co., Bangor, Me., Demand	5,000 00
30a	Merrill Trust Co., Bangor, Me., Demand	8,000 00
31	Merrill Trust Co., Bangor, Me., Demand	11,000 00
		<hr/>
		\$34,000 00

SCHEDULE J—LIABILITIES

Accounts Payable:

Audited Vouchers	\$53,214 37
The Levi M. Stewart Fund Loan	20,000 00
Thesis Binding	52 50
Summer Term, 1915	1,411 50
Summer Term Board, 1915	23 52
Key Deposit Account	140 00
<hr/>	
\$74,841 89	

STATEMENT SHOWING INCOME FROM ALL SOURCES

Income from Students:

Registration fees	\$9,080 00	
Tuition fees, General	\$22,507 50	
Tuition fees, College of Law..	6,155 29	28,662 79
<hr/>		..
Incidental fees	17,865 00	
Special fees for late registration, Diplomas, Etc.....	750 18	
For Dormitories	10,548 85	\$66,906 82
<hr/>		

Income from Investments:

Endowment for general purposes (Coburn)	4,000 00	
Rents	1,971 04	5,971 04
<hr/>		

Income from Grants by State and Nation:

State—

Appropriation for Maintenance	116,250 00	
Appropriation for New Laboratory	18,750 00	
Appropriation for New Dormitory	5,000 00	
Federal Aid—		
Income from Land Grant—Act of July 2, 1862	5,915 00	
Additional Endowments—Acts of Aug. 30, 1890 & March 4, 1907	50,000 00	195,915 00
<hr/>		

Income from Departments:

Law Library	979 94	
Mechanics and Drawing	519 78	
Museum	26 81	
Shop	1 00	1,527 33

Income from other sources:

College General, Laboratory fees	7,488 33	
College of Agriculture, Laboratory fees....	2,234 34	
College of Agriculture, Sales	10,410 65	
College of Agriculture, Cows	215 00	
College of Agriculture, Poultry	448 20	
Board of Students, Summer Term, 1914	49 87	20,846 39
		<hr/> \$291,166 78

STATEMENT SHOWING TOTAL EXPENDITURES

Salaries:

Salaries of Officers	\$11,308 40	
Salaries of Instructors	106,104 14	\$117,412 54

Administration Expenses:

Printing Reports and Bulletins	1,147 78	
Advertising	427 15	
Clerk Hire	5,131 48	
Commencement	713 34	
Freight & Express	1,416 32	
Office Supplies & Postage	3,109 14	
Telephone and Telegraph	638 78	
Traveling Expenses	1,126 93	
Interest and Discount	1,155 57	
Printing and Binding	316 18	
Miscellaneous	750 81	15,933 48

Maintenance of Property:

Repairs to Buildings	9,649 48	
Care of Buildings	7,484 24	
Furnishings and Fixtures	2,321 61	
Insurance	2,147 30	
Athletic Field	582 81	22,185 44

Power, Heat, Light, Water, and Grounds:

Labor	8,565 02
Supplies	8,122 55

Electricity	2,421	01	
Coal	12,213	83	
Water	1,406	62	
Grounds	3,194	13	
Freight and Express	459	82	36,382 98

Department Expenses:

Civil Engineering	749	96	
Electrical Engineering	688	18	
College of Law	9,428	33	
Library	2,522	14	
Mathematics and Astronomy	3	37	
Mechanical Engineering	1,245	96	
Military Science	387	39	
Physical Training	664	76	
Latin	76	60	
English	160	68	
History	65	90	
Economics and Sociology	30	90	
Greek	135	40	
Philosophy	25	00	
Biology	537	10	
Chemistry	4,048	56	
Pharmacy	357	12	
Physics	1,992	39	
Technology Extension	85	35	23,205 07

House Charges:

University Inn	444	95	
Mount Vernon House Annex, No. 1	279	58	724 53

College of Agriculture:

Salaries of Instructors	27,993	29	
Pay of Employees	9,562	59	
Equipment	911	90	
Horses	475	30	
Other Live Stock	147	00	
Feed	6,040	02	
Hay and Straw	98	88	
Fertilizers, Seeds, Etc.....	304	89	
Sundry Supplies & Miscellaneous	3,110	71	
Traveling Expenses	2,114	39	
Postage, Printing, and Stationery	1,863	39	
Freight and Express	608	65	
Wood Account	418	22	

Farmers' Week	202 63	
Forestry	521 66	54,373 52
<hr/>		
<i>Sundry Accounts:</i>		
Prizes	105 00	
Thesis Binding	85	
Summer Term, 1914	1,638 07	
Profit and Loss	982 13	2,726 05
<hr/>		
		\$272,943 63
Surplus		18,223 15
<hr/>		
		\$291,166 78

STATEMENT SHOWING HOW SURPLUS WAS EMPLOYED

Increased Assets:

Plant—		
Alumni Hall	\$1,984 00	
Aubert Hall	43,642 12	
Balentine Hall	8,411 89	
Balentine Hall Annex	3,257 45	
Carpenter Shop	2,491 43	
Farm Buildings	350 00	
Heating Plant	1,889 95	
Inventories, increased	21,303 59	
Accounts Receivable, increased	9,464 76	
Cash, increased	271 09	\$93,066 28

LESS

Fernald Hall Annex, made a part of Car-		
penter Shop	\$1,378 70	
Stand Pipe and Fixtures, dismantled	1,000 00	
Amount due from State, decreased	28,321 84	
Bills Receivable, decreased	1,733 51	
Bills payable, increased	34.000	
Accounts Payable, increased	8,409 08	74,843 13
<hr/>		
Net increase in Surplus		\$18,223 15

MAINE AGRICULTURAL EXPERIMENT STATION

STATEMENT SHOWING RECEIPTS AND EXPENDITURES JULY 1, 1914 TO
JUNE 30, 1915, INCLUSIVE

	Balance June 30, 1914	Receipts	Expendi- tures	Balance June 30, 1915
Adams Fund.....	-	\$15,000 00	\$15,000 00	-
Hatch Fund.....	-	\$15,000 00	\$15,000 00	-
General Account.....	\$1,104 67	\$9,300 66	\$10,723 05	*\$ 317 72
Inspection Analysis.....	*\$2,764 55	\$11,859 86	\$12,288 75	*\$3,193 44
Inspection Analysis Receipts..	\$ 34 20	\$ 699 16	\$ 716 56	\$ 16 80
Animal Husbandry Account..	-	\$ 5,000 00	\$ 5,000 00	-
Aroostook Farm.....	*\$2,605 84	\$ 5,715 86	\$ 9,887 30	*\$6,777 28
Sheep Account.....	*\$ 677 39	\$ 309 87	\$ 839 96	*\$1,207 48
Appropriation for Printing....	\$2,695 42	-	\$ 2,695 42	-

*Deficit Balance.

Respectfully submitted,

CHARLES J. DUNN,

Treasurer

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THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

The Maine Bulletin

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ANNUAL REPORT

of the

UNIVERSITY OF MAINE

For the Year Ended June 30, 1916



UNIVERSITY PRESS
UNIVERSITY OF MAINE
ORONO, MAINE, 1916

CONTENTS

Letter of Transmissal.....	3
Report of the President of the University.....	4
Report of the Treasurer of the University.....	15-25

**Letter of Transmissal from the President of the Board
of Trustees**

To the Honorable Governor and Council of the State of Maine:

I have the honor on behalf of the Board of Trustees of the University of Maine to transmit to you the annual report of the university for the year ending June 30, 1916.

Respectfully submitted,

S. W. GOULD,

President of the Board of Trustees

To the Board of Trustees of the University of Maine.—

It is my privilege and pleasure to present to you my sixth annual report. In this report I attempt to set forth important matters connected with the present condition of the institution and to forecast in some measure the needs of the immediate future.

GENERAL MATTERS

The attendance for the year closing June 30, 1916, was very satisfactory. The students were distributed as follows: graduate students, 46; College of Agriculture, 331; College of Arts and Sciences, 343; College of Law, 101; College of Technology, 448; making a total attendance for the year of 1,269. It is gratifying to note the number of graduate students and also the satisfactory growth in the attendance at the College of Agriculture and the College of Arts and Sciences.

During the past year, the health of the student body has been unusually good. The same may be said of the members of the faculty. Arrangements have already been made for the coming year to give more careful attention to problems of health of the student body. This work will be under the direct charge of Dr. William J. Young, Professor of Physical Culture.

Students and alumni as well as citizens of the State were saddened by the death of Dr. Merritt C. Fernald which occurred January 8 of this year. He had been connected with the institution from its opening in 1868. His entire life was devoted to the interests of the University of Maine. Many of the best things we have are due directly to his foresight, wisdom, and judgment. The last year of his life was spent in writing the history of the institution which he so dearly loved. The manuscript was completed but a few weeks before his death. The history has been published and has met with universal favor by alumni and friends of the institution. The value of this accurate account of the institution written from first hand knowledge can hardly be estimated.

By the death of William A. Martin, of Houlton, the Board of Trustees lost a most valuable member, the State a citizen of unusual importance, and the University one of its best friends. Mr. Martin had a broad grasp of public affairs and showed rare good judgment in all he did. His services to the University of Maine will always be remembered and his memory treasured.

The faculty of the University of Maine is cosmopolitan in character. In study and teaching experience it represents a large number of American and European colleges and universities. The past year has been one of splendid cooperation and devotion to duty. It is unfortunate that our finances have not permitted increases in salary to keep pace with the increased

cost of living. Our scale of salaries is lower than that of other institutions of the same class and standing. As a result of this, we lose from year to year many very desirable teachers. I believe that we are entitled to the best. In order to secure the best, it will be necessary for us to spend a larger amount of money for instruction.

Dean Hart has made some interesting studies of our admission records. These studies are of particular interest and value because they give some indication of the results of our new entrance method by which we admit students from Class A Maine schools upon their record. In 1915, 345 regular freshmen were admitted with an average of 15 units each. Of these, 119 had some conditions; that is, they did not satisfy all the admission units required for the curriculum they intended to pursue. Of these, 54 were conditioned only in solid geometry. The number of first year specials was only 12, which is practically negligible. It is rather interesting to note that nearly 83 per cent. of the freshmen came from Maine schools. They represented 103 different schools, and 85 of them came from 52 schools that sent no students in 1910 or 1911. This would seem to indicate that the need of higher education is being felt in every part of the State and that the influence of the university is widely distributed.

The study of freshman grades covering a number of years shows that the average results for 1913 and 1914 are some better than for 1910 and 1911, the last two years before entering upon our present plan of admission. The results for 1915 are slightly better than for the preceding years. A study of grades with reference to the schools from which the students came shows that the size of the school apparently has but little influence. From two and three teacher schools, 62 per cent. of the students made grades of A, B, and C. From four and five teacher schools and six or more teacher schools, satisfactory grades were made by 65.8 per cent. and 66.5 per cent. of the students respectively.

It is to be expected that when the entrance to the university from the high school is made as easy as it is from the grammar school to the high school, the mortality of freshmen will be thereby increased; that is, the percentage of freshmen who become sophomores will be lowered. We find that we lose about 35 per cent. This is considerably lower than some state universities and higher than others. The average for eighteen large state universities is 31 per cent. There is nothing alarming in this loss. The young men and women have found that because of distaste for higher education, poor health, lack of preparation, or shortage of money they cannot continue the work. Most of them have profited by the experience.

In the summer of 1915, the University installed a modern

printing outfit. This has proved to be a great convenience. The addition this summer of a good linotype machine makes it possible for the University Press to handle all our printing in the future.

For a number of years, the need of more attention to music has been apparent. Under the direction of Professor G. W. Thompson, Professor Drummond, and Mr. Floyd, the student music organizations have done good work. For the coming year, Mr. A. W. Sprague has been secured as Director of Music. He will coach the various musical clubs, direct the chapel music and give two courses in Music.

Balentine Hall, the new dormitory for women, is now completed. It is a splendid building, conveniently arranged, and well adapted as a home for women students. It will accommodate comfortably about 115 students.

The heating plant has been improved by an addition to the boiler room, the installation of another 150 horsepower boiler, the building of a fan room, the installation of a modern induced draft system, and the construction of about 800 feet of tunnel for the main lines of heat pipes.

COLLEGE OF ARTS AND SCIENCES

The College of Arts and Sciences is having a very healthy growth. It is maintaining high standards for its own students and doing most excellent work in the subjects that are required by the students in other colleges. Its growth and the development of graduate work from this college as a center is doing much to give to the institution a true university atmosphere.

The establishment of a curriculum leading to the degree of Bachelor of Pedagogy for normal school graduates has proved a distinct success. Four students have already been granted the degree. The indications are that many students will register for this work in the future.

Arrangements have been made with the Superintendent of Public Schools of the State by which a curriculum leading to the degree of Bachelor of Arts may, at the same time, lead to a professional secondary certificate. Students looking forward to this result are expected to register for a liberal amount of work in both major and minor subjects and to complete 12 hours in the Department of Education. It is believed that this arrangement will increase the number of students who expect to make teaching a profession.

For several years, the College of Arts and Sciences has maintained a teachers' registration bureau. In this bureau, students expecting to teach or graduates already teaching are urged to register. Already school officials in various parts of the State are making use of this bureau to fill vacancies in

their teaching forces. It is hoped that through this bureau and the increased work offered for the preparation of teachers, the university may render a real service to education in the State.

For many years, the College of Arts and Sciences, under the patronage of the university, has maintained a Summer Term. The students in this Term are made up of those working for degrees, both bachelor's and master's, and of teachers. The attendance has not been as large as it should be. It has, however, been made up of very earnest and representative men and women. We hope that the number of students may increase. We have the facilities to take care of many more than now come. Those who do come are invariably enthusiastic in their appreciation of the opportunities offered and the instruction received. The Summer Term has proven to be a good feeder for the regular college year.

COLLEGE OF AGRICULTURE

The attendance in the College of Agriculture shows an increase of approximately 10 per cent. over the preceding year. The students come from all parts of the State. The graduates practically all continue in some sort of agricultural work, either as farmers for themselves, managers of farms for others, extension workers, teachers in agricultural departments of secondary schools and colleges, or investigators in experiment stations. Our record is one of which we may justly be proud.

The Department of Home Economics is growing in importance and popularity. A number of new courses have been added and old courses strengthened. The two-year course has been discontinued. This step was taken not because of lack of students, but for the reason that it appeared impracticable to provide in a two-year course adequate training for teaching home economics in the public schools of the State. A special building for this department is one of the needs of the near future.

The Department of Horticulture has strengthened its work by the addition of new courses. Considerable work is now being done in floriculture and gardening under glass. The work in vegetable gardening and small fruit culture is making good progress. The imperative need of this department is a large, new, and modern greenhouse.

The Department of Animal Industry is doing excellent work. A number of new and important courses will be added as soon as a new dairy building furnishing space and equipment is provided.

Agriculture has grown so in popularity that a good many young men without farm experience enter the college as students. They are usually in earnest and are anxious to secure accurate knowledge of agriculture in all its departments. It

has been decided that all candidates for the degree of Bachelor of Science in the College of Agriculture and for the certificate in the two-year course in agriculture must possess a working knowledge of farm operations so as to be familiar with what is commonly known as "farm practice." The details of the plan for carrying this out will be worked out the coming year.

Farmers' Week was unusually successful. Over 400 men and women were in attendance representing every county in the State. Every one seemed to be greatly pleased with the program, while the women in attendance were especially well pleased with the work offered by the Department of Home Economics. This work consisted of lectures and actual practice in sewing and cookery. The hearty cooperation of many of the agricultural organizations of the State helps to make Farmers' Week successful. Plans are now under way for closer cooperation and still greater help another year.

The increase in herds and flocks necessary for efficient teaching purposes and also for furnishing products for university dormitories has made it necessary to increase the cultivated areas on the farm. To meet this need, a definite project of clearing about 30 acres has been undertaken. Eight acres were cleared in 1914 and 16 in 1915. Grazing crops are now grown on this land and very soon the entire area will be ready for cultivated crops.

The new dairy barns authorized by the Legislature of 1914 are now practically completed. They are modern, sanitary, and convenient, both for commercial and teaching purposes. One of the old cattle barns was moved and utilized for storage in the new plant. The other has been made into a comfortable and convenient horse barn.

The Agricultural Extension work is well organized and is giving service of great value in all parts of the State. At present, county agents are in Cumberland, Franklin, Hancock, Kennebec, Oxford, Penobscot, Piscataquis, Sagadahoc and Androscoggin, Washington, and York. For the coming year, the counties of Knox and Somerset will be added. For the year ending June 30, 1916, there was spent for extension work the following amounts:

Federal Smith-Lever funds.....	\$14,388.28
State Smith-Lever funds.....	4,389.00
General Education Board funds.....	21,000.00
University of Maine.....	2,600.00

\$42,377.28

For the year ending June 30, 1917, the following amounts are available:

Federal Smith-Lever funds.....	\$18,045.18
State Smith-Lever funds.....	8,047.00
U. S. Dept. of Agriculture.....	5,500.00
General Education Board.....	21,500.00
University of Maine.....	2,600.00
	<hr/>
	\$55,692.18

During the year 1914-15, the extension department gave 668 lectures, listened to by 42,830 people. In 1915-16, the number of lectures were 1,620, listened to by 105,380 people. Fifty-eight extension schools were held during the past year with a registration of 354 different people and a total attendance of 767. Economic production demonstrations were carried on at 392 farms and farm management demonstrations at 470 farms. The number of boys and girls enrolled in the club work has increased fivefold during the past year.

If the work in the College of Agriculture is to continue to grow and maintain its high standard, certain definite needs must be met. These are a new dairy building, new greenhouses, and a machinery building.

The present dairy building was erected more than twenty-five years ago when there were but few students in the College of Agriculture. At the present time, it is entirely too small to meet the needs of the students taking dairy courses. It is impossible to organize and carry on new courses in dairy subjects that we ought to develop. The importance of dairying to the State makes it almost absolutely necessary that we have the needed equipment.

The present greenhouses were erected about twenty-five years ago. They have already served for a longer period than the life of the commercial greenhouse. The space provided is not great enough to meet the needs of the Horticultural Department alone, to say nothing of meeting the needs of the Departments of Agronomy, Forestry, and Bacteriology. The subject of horticulture is one of interest to all the people of the State. We ought to have the equipment necessary to do work equal to the best.

The college has no particular place for the display and exhibition of farm machinery. Many manufacturers would be glad to loan the university machinery and equipment for class-work and display purposes if we had the proper housing facilities. A machinery building would not be expensive. It would, however, meet a very great and urgent need.

COLLEGE OF TECHNOLOGY

The College of Technology still maintains its place as first among the colleges of the University in point of student enrolment. The demand for technically trained men in the various lines of engineering is great enough to insure the continued growth and prosperity of this college.

The Department of Chemistry has developed courses in pulp and paper work which have attracted wide interest. The Department of Electrical Engineering has installed an excellent wireless station of commercial size which is proving to be a great asset in the study of wireless telegraphy. The Department of Mechanical Engineering under the lead of Professor W. J. Sweetser, who came from the Case School of Applied Science, is making admirable progress. The Department of Pharmacy because of the advanced requirements for admission has been able to raise its standard. It now gives the degree of Graduate in Pharmacy for two years of work, Pharmaceutical Chemist for three years of work, and Bachelor of Science (in Pharmacy) for the regular four-year curriculum. During the past year, bulletins have been sent to the various drug clerks in Maine and it is hoped that before long a very close alliance will be formed between the university and the profession of pharmacy. The Department of Civil Engineering has increased its equipment by the addition of a large modern and well-lighted drafting room on the second floor of Wingate Hall.

Quite a good beginning has been made in technology extension work. In 1915, classes were held in Bangor and Derby, and lectures were given elsewhere before a number of organizations. In 1916, classes were held in Waterville and Lewiston in electricity and drawing. The interest shown in this work is marked and encouraging. Calls have been made asking for the organization of classes in other towns and for work in other subjects than those mentioned. For the coming year, an instructor has been engaged who will devote his entire time to the work in engineering extension. The demand for this work is likely to grow far more rapidly than the University will be able to meet. It is believed that the people who are engaged in manufacturing have as good a right to receive help from the university in their problems as have the men who are engaged in agricultural pursuits. It will certainly be good policy for the university to meet this demand as rapidly as possible.

In June, 1915, the Board of Trustees authorized the organization of an technology experiment station. The object of the station is to carry on practical research in technical subjects, make investigations for State boards and municipal authorities, and furnish scientific information to the industries of the State.

Only a limited amount of work can be done until funds are available to cover expenses. During the past year, two bulletins have been issued and two more will be printed early this autumn. There is now before the Congress of the United States, Senate Bill 4874, which, if it becomes a law, will provide \$15,000 a year for engineering experiment work in each state.

The cooperation of the College of Technology with the various State commissions is going steadily forward. The road materials testing laboratory has been in almost steady operation since September 1, 1914. A part of the time it is used for teaching purposes and the remainder of the time in work for the State Highway Commission. Some work has been done for the City of Bangor and also some for private individuals. Charges are made only to the latter. The Highway Commission has called upon the college for a considerable amount of work in connection with the bridges of the State. An attempt is being made to put the design of these bridges upon a higher plane and to create the same standard of excellence as in other states where organized effort has prevailed. At the present time, all of the steel highway bridges built by the State Highway Commission are checked and approved by the department of Civil Engineering.

This college needs at the present time large appropriations for equipment. Improvements and new inventions make much of the old equipment out of date and practically useless. The Mechanical Engineering Department is greatly in need of additional space. This could be provided by the building of one unit of a mechanical engineering building. As soon as at all practicable, we should have a complete hydraulic laboratory. Our State ranks third in the Union in the development of water power, with possibilities of three times the present development being made. The State's College of Technology should have a laboratory and power station in keeping with the possibilities of the State in order that it may lead in making these possibilities realities.

COLLEGE OF LAW

During the past year, the number of students in attendance at the College of Law was 101 as against 94 the preceding year. The students for the past year represented the following states and countries: Maine, 81; Massachusetts, 10; Connecticut, 1; New Hampshire, 4; Vermont, 2; New York, 2; Turkey, 1. All the counties in Maine except Franklin and Lincoln were represented. At Commencement in 1916, the degree of LL.B. was conferred upon 22 as against 14 the preceding year.

The Maine Law Review which has completed its ninth volume is a very creditable publication. It is managed and edited by students in the College of Law. Its articles upon subjects

of professional interest have attracted favorable attention all over the country.

By action of the Board of Trustees, the new entrance requirements for the College of Law, beginning with the year 1916-17, are as follows:

Regular Students. Students who enter as candidates for degrees must present credentials showing the completion of at least two full years of work in an approved college or university. An approved college or university will be understood to mean a college or university which requires at least 14 Carnegie units for entrance, which offers facilities for good college work, and which maintains acceptable standards.

Special Students. Special students will be admitted only when they satisfy the following requirements: They must be at least 21 years of age; they must appear personally before a committee consisting of the President of the University and the Deans of the Colleges, and satisfy this committee that they have the maturity and mental training that will qualify them to do acceptably the work required of regular students.

It is believed that the new entrance requirements will make the standard of our College of Law equal to that of the best schools in the country. It may happen, however, that the attendance for a few years will be decreased in consequence.

LIBRARY

The total number of volumes in the libraries June 30, 1916 are:

General Library.....	49,453
Law Library.....	4,947
Experiment Station Library.....	4,465

Total	58,865
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The total increase in the last two years has been 4,949. The use of the Library has increased rapidly. During the past two years, 22,510 volumes have been withdrawn from the stacks for circulation. This is an increase of about 15 per cent. over the two years previous. The use of books in the library from the reserved list and the consultation of reference books has increased very greatly indeed.

The lack of available money has made it impossible for the past two years to make the needed addition of books to the Library. There should be at least \$5,000 a year available for the purchase of books.

The Library building which was built ten years ago and was planned to furnish accommodation for a like period, is now becoming greatly crowded. Additional space is needed for storage of books and a much larger reading room is demanded. Means should be found very soon for the enlargement of this building.

MILITARY

Military instruction is required of all first and second year students. This is a requirement of the Federal government. During the past two years, much desirable progress has been made in improving instruction and increasing the interest of the students in the work.

Lieut. F. S. Clark, who has been in charge of the work, has organized advanced courses for juniors and seniors. These courses are proving popular and are being elected by considerable numbers.

Under the provisions of the new military bill, the University will be entitled to the detail of two commissioned officers for the purpose of military instruction. It is hoped that the additional officer may be detailed early this coming year. We are also entitled to the organization of a machine gun squad. The application has already been made for this and it is hoped that early in the year the equipment for it will be received.

There is very urgent need for a large armory, so that efficient work may be carried on throughout the year.

PHYSICAL CULTURE

Regular and systematic physical exercise is required of all first year students, both men and women. Considerable work of an advanced character is offered and may be elected by members of the upper classes.

College sports, both intramural and intercollegiate, are fostered and encouraged. We hope to have every student get some wholesome exercise by participation in a sport that is personally enjoyed. Work to this end will receive greater emphasis in the future than in the past.

The varsity teams in football, baseball, track, and cross country have made good records and brought deserved credit to the university by their many victories. We hope for the future to maintain high standards, develop a keener appreciation of true sport, and win our share of victories.

AGRICULTURAL EXPERIMENT STATION

The Agricultural Experiment Station is under the direct control of the University. Its expenses, however, are borne in the main by the Federal government. Under the provision of the Hatch and Adams act, \$30,000 per year is received for the Experiment Station work.

The Maine Station, under the provision of the laws of the State, makes the inspections of agricultural seeds, commercial feeding stuffs, commercial fertilizers, drugs, foods (including

milk and other dairy products), fungicides and insecticides collected under the direction of the Commissioner of Agriculture. The results of the examinations and analyses are published. During the past year, eight numbers of "Official Inspections" amounting to 256 pages were printed.

The main work of the Agricultural Experiment Station is in making investigations of questions connected with agricultural activities. Investigations in dairying and breeding are carried on in cooperation with the College of Agriculture and also with farmers throughout the State. Definite experiments in orcharding, plant breeding, and crop growing are carried out on the experiment farms at Monmouth and Presque Isle. The investigation of plant diseases, particularly those that attack the apple and the potato, the latter in cooperation with the Bureau of Plant Industry of the United States Department of Agriculture, should give results of great value. In the Department of Entomology, a special summer staff of experts from various universities is employed. Very satisfactory results have been obtained and much useful data is being accumulated. Important plant breeding experiments with oats, wheat, corn, and beans, and to some extent with grasses are conducted at both farms. General field experiments with potatoes are being continued at Aroostook Farm.

The work of the station is closely related to the agricultural development of the State. Its aim is to find out the truth and then to publish it for the benefit of the people who may profit by it.

SUMMARY OF NEEDS

1. A very considerable increase in the annual appropriation for maintenance.
2. A modern and convenient administration building.
3. A new horticultural building and greenhouse.
4. A new and large dairy building.
5. One unit of a new mechanical laboratory.
6. A farm machinery building.
7. A large armory.

Respectfully submitted,

ROBERT J. ALEY,

President University of Maine.

EXPLANATORY NOTE

In preparing this report, the President used freely the matter contained in communications made to him by Deans Hart, Boardman, Merrill, Stevens, and Walz, Director Woods, Registrar Gannett, and Librarian Jones. Due credit to each of these officials is hereby given.

To the Board of Trustees of the University of Maine:—

I have the honor to present my report as Treasurer of the University of Maine for the fiscal year ending June 30, 1916:

ASSETS

Trust Fund Investments:

Coburn Trust Fund	Schedule A	\$100,000 00	
U. S. Land Scrip Fund	Schedule A	118,300 00	
Levi M. Stewart Fund	Schedule A	20,000 00	
David D. Stewart Fund	Schedule A	13,750 00	
Nehemiah Kittredge Loan Fund	Schedule B	1,531 34	
Kidder Scholarship Fund	Schedule B	750 00	\$254,331 34
<hr/>			
Lands and Buildings	Schedule C		713,778 29
Inventories	Schedule D		262,712 73
Accounts Receivable	Schedule E		15,235 59
Appropriation, State of Maine	Schedule F		6,691 56
Bills Receivable	Schedule G		2,295 21
Cash on hand, June 30, 1916			7,208 99
<hr/>			
			\$1,262,253 71
<hr/>			

LIABILITIES

Trust Funds:

Coburn Trust Fund		\$100,000 00	
U. S. Land Scrip Fund		118,300 00	
Levi M. Stewart Fund		20,000 00	
David D. Stewart Fund		13,750 00	
Nehemiah Kittredge Loan Fund		1,531 34	
Kidder Scholarship Fund		750 00	\$254,331 34
<hr/>			
Bills Payable	Schedule I		62,000 00
Accounts Payable	Schedule J		70,745 86
Surplus			875,176 51
<hr/>			
			\$1,262,253 71
<hr/>			

SCHEDULE A—ASSETS.

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, dated Feb. 5, 1889, due July 1, 1917, bearing interest at 4 per cent. per annum, of the par value of \$100,000.00

United States Land Scrip Trust Fund Investment:

Under the provisions of An Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has realized an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1899, due July 1, 1915, bearing interest at 5 per cent. per annum, of the par value of \$118,300.00

The Levi M. Stewart Fund Investment:

This represents a fund received from Hon. David D. Stewart, executor and residuary legatee of Levi M. Stewart, late of Minneapolis, Minnesota, amounting to \$20,000.00

By special permission of the donor, this fund is temporarily invested as a part of the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall.

The David D. Stewart Fund Investment:

The gift of Hon. David D. Stewart of St. Albans, Maine, for the purpose of retiring notes of the University of Maine representing the balance unpaid on the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall, amounting to \$13,750.00

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge, of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same, loans are made to needy students in the three upper classes. It is now invested as follows:

Thirty one (31) promissory notes, signed by present and former students of the University, aggregating, exclusive of accrued interest,	\$1,446.92
On Deposit in Bangor Savings Bank—Book No. 45602	84.42
	<hr/>
	\$1,531.34

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, of Denver, Colorado, Class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, amounting to \$ 750.00

This fund is on deposit in the Bangor Savings Bank,
as per book No. 45603.

SCHEDULE C—ASSETS**Lands and Buildings:**

Alumni Field (Structures only)	\$ 1,000.00
Alumni Hall	33,979.80
Aubert Hall	78,370.99
Balentine Hall (not fully completed)	64,031.69
Balentine Hall Annex	4,925.73
Campus and Farm Lands	11,000.00
Carnegie Library	50,985.06
Carpenter Shop	2,491.43
Coburn Hall	28,203.80
Estabrooke Hall	6,000.00
Faculty Houses	26,235.65
Farm Buildings	26,245.40
Fernald Hall	30,000.00
Hannibal Hamlin Hall	55,707.62
Heating Plant	63,875.57
Horticultural Building	2,500.00
Infirmary	700.00
Janitor's House	1,000.00
Kappa Sigma House	5,400.00
Locomotive House	200.00
Lord Hall	38,337.48
Mount Vernon House	3,500.00
New Barns (not fully completed)	19,285.41
North Hall	3,500.00
Oak Hall	40,000.00
Observatory	500.00
Old Pumping Station	1,200.00
Power House	1,000.00
Printing Plant	1,481.45
Stewart Hall	33,750.00
Stock Judging Pavilion	4,292.46
Store House	500.00
Waiting Room	226.97
Wingate Hall	25,143.93
Winslow Hall	45,207.85
Woodward Farm	3,000.00

\$713,778.29

SCHEDULE D—ASSETS

Inventories:

Advertising	\$ 165.77
Balentine Hall	2,365.29
Biology	10,639.46
Care of Buildings	361.25
Commencement	563.04
Chemistry	26,477.70
Civil Engineering	8,618.45
Commons	1,936.43
College of Agriculture	
Postage, Printing & Stationery	83.75
Sundry Supplies & Misc.	1,848.25
Equipment	25,039.79
Cows	6,154.00
Horses	2,535.00
Poultry	1,095.35
Other Live Stock	980.00
Feed	1,162.05
Fertilizer, Seeds etc.	300.07
Diplomas	333.52
Electrical Engineering	9,146.08
English	211.50
Furniture & Fixtures	8,657.28
Greek & Classical Archeology	1,406.60
Grounds	100.65
Hannibal Hamlin Hall	2,074.18
History	30.50
Hospital	68.60
Inn	2,616.61
Insurance	762.18
Latin	20.90
Laundry	230.50
Law—College of	1,314.25
Law Library	12,165.78
Library	64,891.72
Locker Account	804.80
Mathematics & Astronomy	4,007.50
Mechanical Engineering	22,800.70
Mechanics & Drawing	1,680.70
Military Science	502.75
Mount Vernon House	1,438.41

Forward

\$225,591.36

SCHEDULE D—(Continued)—ASSETS.

Forward	
Museum	\$225,591.36
North Hall	10,996.19
Oak Hall	1,413.98
Office Supplies & Postage	1,367.10
Pharmacy	519.00
Philosophy	667.90
Physical Training	297.35
Physics	1,678.21
Power, Heat, Light & Water:	8,637.74
Supplies	
Coal	1,658.60
Repairs to Buildings	4,004.25
University Press	2,592.71
	3,288.34
	<hr/>
	\$262,712.73

SCHEDULE E—ASSETS

Accounts Receivable:

Representing funds due the University
as follows:

Students' Accounts	\$ 1,068.94
Maine Agricultural Experiment Station	10,002.79
Other General Ledger Accounts	4,163.86

\$15,235.59

SCHEDULE F—ASSETS

State of Maine—Appropriations:

Amount due the University, under the provisions of the laws of 1915, and unpaid,
as follows:

Appropriation for New Barns	\$ 329.50
Appropriation for the completion of Dormitory for women	6,362.06
	<hr/>
	\$6,691.56

SCHEDULE G—ASSETS

Bills Receivable:

Represents seventy one (71) promissory notes,
signed by present and former students, given
the University in settlement of tuition fees,
term bills etc., aggregating

\$2,295.21

SCHEDULE H—ASSETS

Cash Balance, June 30, 1916:

On Deposit, Merrill Trust Company, Bangor, Me.	\$4,909.49
On Deposit, Old Town Trust Company, Orono, Me.	88.81
Cash Drawer	2,210.69
	<hr/>
	\$7,208.99
Cash on hand, June 30, 1915	\$ 1,876.89
Total Receipts for year	562,187.01
	<hr/>
	\$564,063.90
Less total disbursements for year	556,854.91
	<hr/>
	\$ 7,208.99

SCHEDULE I—LIABILITIES

Bills Payable:

Note No. 32 Merrill Trust Co., Bangor, Me., Demand	\$15,000.00
33 Merrill Trust Co., Bangor, Me., Demand	5,000.00
34 Merrill Trust Co., Bangor, Me., Demand	7,000.00
35 Merrill Trust Co., Bangor, Me., Demand	5,000.00
36 Merrill Trust Co., Bangor, Me., Demand	15,000.00
37 Merrill Trust Co., Bangor, Me., Demand	15,000.00
	<hr/>
	\$62,000.00

SCHEDULE J—LIABILITIES

Accounts Payable:

Audited Vouchers	\$39,483.11
Levi M. Stewart Fund Loan	20,000.00
State of Maine, Advance by State Treasurer	
on account of Maintenance Appropriation	9,750.00
Summer Term, 1916	1,331.25
Key Deposit Account	135.00
Thesis Binding	29.25
W. C. Lane	5.00
N. C. Sherwood	3.00
Maine Christian Asso.	9.25
	<hr/>
	\$70,745.86

STATEMENT SHOWING INCOME FROM
ALL SOURCES**Income from Students:**

Registration fees		\$10,215.00
Tuition fees, General	\$34,553.45	
Tuition fees, College of Law	7,390.00	41,943.45
Incidental fees		19,880.00
Special fees for late regis- tration, diplomas etc.		1,037.80
For Dormitories		9,751.26\$ 82,827.51

Income from Investments:

Endowments for general purposes (Coburn)	4,000.00	
Rents	1,745.04	5,745.04

Income from Grants by State and Nation:

State—

Appropriation for Maintenance	122,500.00	
Appropriation for Womens Dormitory	30,000.00	
Appropriation for New Barns	18,750.00	
Appropriation for Cooperative Agri- culture	4,389.00	

Federal Aid—

Income from Land Grant—Act of July 2, 1862	5,915.00	
Additional Endowments—Acts of Aug. 30, 1890 & March 4, 1907	50,000.00	
Cooperative Agriculture (Smith-Lever Fund) Act of May 8, 1914	14,388.28	245,942.28

Income from Departments:

University Press	389.04	
Law Library	547.10	
Museum	21.15	
Greek & Classical Archeology	11.20	968.49

Income from Other Sources:

College General, Laboratory fees	7,850.12	
College of Agriculture, Laboratory fees	2,101.21	
College of Agriculture, Sundry Sales	10,233.25	
College of Agriculture, Equipment	671.32	
College of Agriculture, Cows	69.00	
College of Agriculture, Other Live Stock	318.00	
College of Agriculture, Wood Account	575.77	
Board of Students, Summer Term 1915	238.70	22,057.37

\$357,540.69

STATEMENT SHOWING TOTAL EXPENDITURES—

Salaries :

Salaries of Officers	\$ 11,741.60	
Salaries of Instructors	154,292.88	\$166,034.48

Administration Expenses :

Advertising	434.68	
Clerk Hire	5,474.73	
Commencement	464.32	
Freight & Express	1,716.61	
Office Supplies	2,418.58	
Telephone & Telegraph	746.48	
Traveling Expenses	605.92	
Interest & Discount	1,773.24	
Printing & Binding	9,259.34	
Miscellaneous	708.63	23,602.53

Maintenance of Property :

Repairs to Buildings	7,566.91	
Care of Buildings	7,887.85	
Furnishings & Fixtures	1,078.59	
Insurance	2,079.19	
Grounds	2,979.43	21,591.97

Power, Heat, Light & Water :

Labor	7,474.71	
Supplies	7,088.62	
Electricity	2,756.75	
Coal	11,991.13	
Freight & Express	351.56	
Water	1,698.52	31,361.29

Department Expenses :

Civil Engineering	1,952.37	
Electrical Engineering	529.79	
College of Law	2,693.35	
Library	2,498.79	
Mathematics & Astronomy	248.50	
Mechanical Engineering	3,059.96	

Forward

\$10,982.76\$242,590.27

STATEMENT SHOWING TOTAL EXPENDITURES

Continued.

Forward	\$10,982.76	\$242,590.27
Mechanics & Drawing	401.95	
Military Science	358.50	
Physical Training	567.80	
Latin	3.65	
English	78.24	
History	4.75	
Economics & Sociology	15.21	
Philosophy	9.66	
Biology	899.98	
Chemistry	1,350.94	
Pharmacy	403.59	
Physics	628.66	
Technology Extension	254.02	
Public Speaking	7.00	
College of Agriculture:		
Pay of Employees	10,661.52	
Horses	150.00	
Poultry	1,284.60	
Feed	6,043.60	
Hay & Straw	108.52	
Fertilizer, Seeds etc.	1,016.09	
Sundry Supplies & Misc.	3,508.82	
Traveling Expenses	2,088.57	
Postage, Printing & Stationery	1,422.29	
Freight & Express	673.45	
Forestry	56.19	
Farmers' Week	142.56	
Moving Barn	612.61	
Extension Work (Smith- Lever Fund)	18,777.28	62,512.81
House Charges:		
University Inn	16.63	
Mount Vernon House Annex No. 1.	268.78	285.41
Sundry Accounts:		
Prizes	135.00	
Thesis Binding	1.40	
Summer Term, 1915	1,810.82	
Profit & Loss	340.42	2,287.64
Surplus		\$307,676.13
		49,864.56
		<u>\$357,540.69</u>

STATEMENT SHOWING HOW SURPLUS WAS EMPLOYED

Increased Assets:

Plant—

Aubert Hall	\$	20.00	
Balentine Hall		40,148.89	
Farm Buildings		19,575.67	
Heating Plant		5,320.65	
Printing Plant (Old Art Guild)		581.45	\$65,646.66

Inventories, increased		12,462.65	
Amount due from State, increased		441.56	
Bills Receivable, increased		295.11	
Accounts Payable, decreased		4,096.03	
Cash on hand, increased		5,332.10	
			<u>\$88,274.11</u>

LESS

Bills Payable, increased	\$28,000.00		
Accounts Receivable, decreased	10,409.55	38,409.55	
		<u></u>	
Net increase in Surplus			\$49,864.56

MAINE AGRICULTURAL EXPERIMENT STATION.

Statement showing Receipts and Expenditures

July 1, 1915 to June 30, 1916, inclusive.

	BALANCE JUNE 30, 1915	RECEIPTS	Expenditures	BALANCE JUNE 30, 1916
Adams Fund	\$	\$ 15,000.00	\$ 15,000.00	\$
Hatch Fund.....	\$	\$ 15,000.00	\$ 15,000.00	\$
General Fund.....	\$ 317.72*	\$ 10,004.87	\$ 9,443.91	\$ 243.24
Inspection Analysis.....	\$ 3,193.44*	\$ 13,945.13	\$ 12,674.52	\$ 1,922.83*
Inspection Analysis Receipts	\$ 16.80	\$ 541.07	\$ 496.55	\$ 61.32
Animal Husbandry Account..	\$	\$ 5,000.00	\$ 5,000.00
Aroostook Farm.....	\$ 6,777.28*	\$ 9,806.21	\$ 6,614.90	\$ 3,585.97*
Sheep Account	\$ 1,207.48*	\$ 1,299.75	\$ 814.27	\$ 722.00*

*Deficit Balance

Respectfully submitted,

CHARLES J. DUNN,

Treasurer University of Maine

16/17

The Maine Bulletin

Entered at the Post Office at Orono as second class matter
Published monthly during the academic year

Vol. XX

University of Maine, Orono, Maine, October, 1917

No. 2

ANNUAL REPORT

of the

UNIVERSITY OF MAINE

For the Year Ended June 30, 1917



PRINTED AT THE
UNIVERSITY PRESS
ORONO, MAINE

CONTENTS

Letter of Transmissal.....	3
Report of the President of the University.....	4
Report of the Treasurer of the University.....	8-16

Letter of Transmissal from the President of the Board of
Trustees

To the Honorable Governor and Council of the State of Maine:

I have the honor on behalf of the Board of Trustees of the University of Maine to transmit to you the annual report of the university for the year ending June 30, 1917.

Respectfully submitted,

S. W. GOULD,

President of the Board of Trustees

To the Board of Trustees of the University of Maine:

I herewith present to you my seventh annual report. In this report, I make a brief summary of some of the more important matters connected with the work of the institution during the past year.

The attendance for the year closing June 30, 1917 was slightly in excess of that of the preceding year. The students were distributed as follows:

Graduate students.....	42	
College of Agriculture.....	325	
College of Arts and Sciences.....	399	
College of Law.....	75	
College of Technology.....	435	
Total Attendance.....		1276

The decrease in the attendance in the College of Law is accounted for by the increased requirements for entrance. It will probably be several years before the attendance is as large as it was before the new entrance requirements were in effect.

The number of students working in regular courses as candidates for degrees is very gratifying. They were distributed as follows:

Graduate students.....	35	
College of Agriculture.....	259	
College of Arts and Sciences.....	310	
College of Law.....	53	
College of Technology.....	424	
Total.....		1081

This marked increase in the number of candidates for degrees is due to the elimination of short courses and the reduction in the number of special students.

At the opening of the fall semester in 1916, 350 students were admitted as regular members of the freshman class. Of this number, 298 came from within the State of Maine. The grade of work done by the freshmen was better than that of preceding classes. For the past three years, the grades show distinct gains in the percent. of students making C or better, a

lowering in the percent. making D, and a marked lowering in the percent. of those making E or F. This is very gratifying and indicates that the admission of students without examinations from Class A. schools in Maine is proving a success.

At the Commencement held in June 1917, degrees were conferred as follows:

Bachelor of Arts.....	52
Bachelor of Science in Agriculture.....	47
Bachelor of Pedagogy.....	6
Bachelor of Laws.....	20
Bachelor of Science in Technology.....	56
Graduate in Pharmacy.....	5
Master of Arts.....	5
Master of Laws.....	1
Master of Science.....	4
Chemical Engineer.....	1
Civil Engineer.....	2
Mechanical Engineer.....	1
Certificates for 2 years in Home Economics.....	5
Certificates for 2-year School Course in Agriculture.....	19
Total.....	224

In common with the other institutions of higher learning in the country, the work of the spring semester was disturbed by war conditions. Soon after the declaration of war, arrangements were made to release students who desired to enlist or to enter into necessary work connected with the war. The standing of such students as left under these conditions was determined at the time of withdrawal and that standing was entered as the grade of the student for the semester. Nearly 600 young men left the institution before Commencement to engage in some sort of necessary service.

The situation in the country during the present crisis is such that attendance at institutions of higher learning will doubtless be greatly diminished. Believing that this would be the case, measures were taken soon after the declaration of war to provide a smaller faculty for 1917-18. An attempt was made

to retain the permanent members of the faculty so far as possible. Instructors were informed that conditions were such that their services would likely not be needed for the coming year. Vacancies caused by resignation were allowed to remain open. As a result of these measures, the force for the coming year will consist almost wholly of men and women of professorial grade. The faculty will be smaller but stronger. The cost of instruction will be reduced but the high standards of teaching will be maintained.

The agricultural extension work has made substantial growth during the year. Its importance is recognized and appreciated by the people of the state. Legislation by the Federal Government to meet war emergencies has furnished the University an opportunity greatly to extend the work. Everything possible is being done to help the people of the state produce more and conserve it better.

In the extension work in technology, we had a very successful year. Classes were conducted in Auburn, Lewiston, Waterville, Augusta, and Portland. These classes were well attended and the interest was unusually good. Owing to the lack of money, it will be necessary temporarily to discontinue the work in technology extension. It is hoped that the discontinuance will be but for a short period as there is a real demand for the work not only in the places where we have conducted classes but also in many other industrial centers.

On June 9, 1917, the University community was greatly shocked by the news of the death of Librarian R. K. Jones. The Board of Trustees at the meeting held June 12 placed upon the permanent records the following statement:

Ralph Kneeland Jones, Librarian of the University for the last twenty years, passed away at Wellesley Hills, Mass., June 9.

Mr. Jones rendered to the University an unusual service. He was faithful, loyal, and efficient. He did more than any other man connected with the institution to keep the University and alumni in close touch.

We, the members of the Board of Trustees, take this opportunity to place upon the records of the Board our high appreciation of his service to the institution, of his loyalty to all her interests, and of his untiring efforts in promoting her welfare.

The Board also voted to place in the Library a bronze tablet in memory of Mr. Jones.

If the University is to continue its growth, to maintain its standards, and to serve the people of the state as it should, its revenues must be greatly increased. It needs more money for salaries, equipment, and buildings. These matters will be presented in detail in the report issued one year hence.

Respectfully submitted,

ROBERT J. ALEY,

President, University of Maine.

REPORT OF THE TREASURER
UNIVERSITY OF MAINE
 FOR THE FISCAL YEAR ENDED JUNE 30, 1917.

ASSETS

Trust Fund Investments:

Coburn Trust Fund	Schedule A	\$100,000 00	
U. S. Land Scrip Fund	Schedule A	118,300 00	
Levi M. Stewart Fund	Schedule A	20,000 00	
David M. Stewart Fund	Schedule A	13,750 00	
Nehemiah Kittredge Loan Fund	Schedule B	1,543 96	
Kidder Scholarship Fund	Schedule B	750 00	
Maine Cannors Association			
Scholarship Fund	Schedule B	325 00	
Eugene Hale Scholarship Fund	Schedule B	50 00	
Joseph Rider Farrington			
Scholarship Fund	Schedule B	1,000 00	\$255,718 96
			<hr/>
Lands and Buildings			723,056 14
Inventories			297,826 64
Accounts Receivable	Schedule C		15,402 49
Bills Receivable	Schedule D		2,359 51
Cash on hand, June 30, 1917			1,596 86
			<hr/>
			\$1,295,960 60

LIABILITIES

Trust Funds:

Coburn Trust Fund		\$100,000 00	
U. S. Land Scrip Fund		118,300 00	
Levi M. Stewart Fund		20,000 00	
David M. Stewart Fund		13,750 00	
Nehemiah Kittredge Loan Fund		1,543 96	
Kidder Scholarship Fund		750 00	
Maine Caners Association			
Scholarship Fund		325 00	
Eugene Hale Scholarship Fund		50 00	
Joseph Rider Farrington			
Scholarship Fund		1,000 00	\$255,718 96
			<hr/>
Bills Payable	Schedule E		92,000 00
Accounts Payable	Schedule F		55,223 85
Surplus			893,017 79
			<hr/>
			\$1,295,960 60

SCHEDULE A—ASSETS.

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, maturing July 1, 1917 and bearing interest at 4% per annum, of the par value of \$100,000.00

United States Land Scrip Trust Fund Investment:

Under the provisions of An Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has received an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1899, due June 1, 1919, bearing interest at 5% per annum, of the par value of \$118,300.00

The Levi M. Stewart Fund Investment:

This represents a fund received from Hon. David D. Stewart, executor and residuary legatee of Levi M. Stewart, late of Minneapolis, Minnesota, amounting to \$20,000.00

By special permission of the donor, this fund is temporarily invested as a part of the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall.

The David D. Stewart Fund Investment:

The gift of Hon. David D. Stewart of St. Albans, Maine, for the purpose of retiring notes of the University of Maine representing the balance unpaid on the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall, amounting to \$13,750.00

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge, of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same loans are made

to needy students in the three upper classes. It is now invested as follows:

Thirty (30) promissory notes, signed by present and former students of the University, aggregating, exclusive of accrued interest,	\$1,360.42
On Deposit in Bangor Savings Bank—Book No. 45602	183.54
	<hr/>
	\$1,543.96

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, of Denver, Colorado, Class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, amounting to \$750.00

This fund is on deposit in the Bangor Savings Bank, as per book No. 45603.

Maine Cannery Association Scholarship Fund Investment:

A gift from Maine Cannery Association, of Portland, Maine, providing for five scholarships, amounting to \$325.00

This fund is on deposit in the Savings Department of the Old Town Trust Co., as per Book No. 2285.

Eugene Hale Scholarship Fund Investment:

The gift of Mrs. Eugene Hale, of Ellsworth, Maine, providing for two scholarships of \$25.00 each. \$50.00

This fund is on deposit in the Savings Department of the Old Town Trust Co., as per Book No. 2284.

SCHEDULE B—ASSETS—Continued.

Joseph Rider Farrington Scholarship Fund Investment:

The gift of Arthur M., Edward H., Oliver C., Horace P. and Wallace R. Farrington, all graduates of the University of Maine and sons of Mr. and Mrs. Joseph Rider Farrington. Mr. Farrington was Farm Superintendent and Instructor in Agriculture in 1871–1878 and Professor of Agriculture in 1878–1879. The gift, which is made as a memorial to their parents, provides for a scholarship, under conditions named by the donors, and amounts to \$1,000.00

This gift comes to the University invested in a Pacific Mills First Mortgage Gold Bond, due in 1934, bearing interest at 6%. This bond is deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

SCHEDULE C—ASSETS

Accounts Receivable:

Representing funds due the University
as follows:

Students' Accounts	\$1,433.06
Maine Agricultural Experiment Station	9,392.46
Other General Ledger Accounts	4,576.97
	<hr/>
	\$15,402.49

SCHEDULE D—ASSETS

Bills Receivable:

Represents seventy-two (72) promissory notes, signed by present and former students, given the University in settlement of tuition fees, term bills etc., aggregating	\$2,359.51
--	------------

SCHEDULE E—LIABILITIES

Bills Payable:

Note No. 32 Merrill Trust Co., Bangor, Me. Demand	\$15,000.00
33 Merrill Trust Co., Bangor, Me. Demand	5,000.00
34 Merrill Trust Co., Bangor, Me. Demand	7,000.00
35 Merrill Trust Co., Bangor, Me. Demand	5,000.00
36 Merrill Trust Co., Bangor, Me. Demand	15,000.00
37 Merrill Trust Co., Bangor, Me. Demand	15,000.00
38 Merrill Trust Co., Bangor, Me. Demand	10,000.00
39 Merrill Trust Co., Bangor, Me. Demand	10,000.00
40 Merrill Trust Co., Bangor, Me. Demand	10,000.00
	<hr/>
	\$92,000.00

SCHEDULE F—LIABILITIES.

Accounts Payable:

Audited Vouchers	\$36,142.51
Levi M. Stewart Loan Fund	20,000.00
State of Maine, Advance by State Treasurer on 1917-18 Coburn Fund Income	2,000.00
Summer Term-1917	1,043.45
Key Deposit Account	10.00
Thesis Binding	21.75
Jacob Zinn	5.00
Athletic Association	1.14
	<hr/>
	\$55,223.85

STATEMENT SHOWING INCOME FROM
ALL SOURCES.**Income from Students:**

Registration fees	\$10,255.00
Tuition fees, General	\$33,694.05
Tuition fees, College of Law	5,350.00
	<hr/>
Incidental fees	19,924.00
Special fees for late regis- tration, Diplomas, etc.	1,246.78
For Dormitories	7,777.22
	<hr/>
	\$ 78,247.05

Income from Investments:

Endowments for general purposes (Coburn)	4,000.00
Rents	2,260.04
	<hr/>
	6,260.04

Income from Grants by State and Nation:

State—

Appropriation for Maintenance	125,000.00
Appropriation for Women's Dormitory	10,000.00

Appropriation for New Barns	6,250.00	
Appropriation for Cooperative Agriculture	8,047.00	
Federal Aid—		
Income from Land Grant—Act of July 2, 1862	5,915.00	
Additionad Endowments—Acts of Aug. 30, 1890 & March 4, 1907	50,000.00	
Cooperative Agriculture (Smith-Lever Fund), Act of May 8, 1914	18,045.18	223,257.18
	<hr/>	

Income from Departments:

University Press	336.22	
Law Library	477.88	814.10
	<hr/>	

Income from other sources:

College General, Laboratory fees	8,487.46	
College of Agriculture, Laboratory fees	2,308.33	
College of Agriculture, Sundry Sales	12,484.40	
Colege of Agriculture, Horses	315.00	
College of Agriculture, Cows	386.00	
Colege of Agriculture, Other Live Stock	176.00	
Board of Students, Summer Term 1916	113.97	24,271.16
	<hr/>	<hr/>
		\$332,849.53

STATEMENT SHOWING TOTAL EXPENDITURES**Salaries:**

Salaries of Officers	\$ 11,701.39	
Salaries of Instructors	153,069.54	\$164,770.93

Administration Expenses:

Advertising	593.37
Clerk Hire	5,638.83
Comencement	422.56
Freight & Express	1,654.92

Office Supplies & Postage	2,788.53	
Telephone & Telegraph	739.86	
Traveling Expenses	1,036.52	
Interest & Discount	3,305.58	
Printing & Binding	5,253.08	
Miscellaneous	847.46	22,280.71
		<hr/>

Maintenance of Property:

Repairs to Buildings	4,556.09	
Care of Buildings	7,072.25	
Furnishings & Fixtures	328.24	
Insurance	3,322.53	
Grounds	2,681.03	17,960.14
		<hr/>

Power, Heat, Light & Water:

Labor	8,910.62	
Supplies	4,046.63	
Electricity	2,527.74	
Coal	18,471.63	
Freight & Express	282.14	
Water	1,724.46	35,963.22
		<hr/>

Department Expenses:

Civil Engineering	133.30
Electrical Engineering	1,018.32
College of Law	3,039.78
Library	662.88
Mathematics & Astronomy	181.82
Mechanical Engineering	4,015.21
Mechanics & Drawing	749.37
Military Science	636.30
Museum	662.99
Physical Training	583.19
English	26.05
	<hr/>

Forward

\$ 11,709.21 \$240,975.00

STATEMENT SHOWING TOTAL EXPENDITURES—

Continued.

Forward	\$11,709.21	\$240,975.00
History	1.75	
Economics & Sociology	28.00	
Greek & Classical Archeology	13.69	
Philosophy	3.70	
Biology	169.15	
Chemistry	2,694.50	
Pharmacy	176.67	
Physics	843.90	
Technology Extension	652.31	
Public Speaking	35.53	
Music	7.15	
College of Agriculture:		
Pay of Employees	10,635.64	
Equipment	1,393.16	
Poultry	433.85	
Feed	7,650.63	
Hay & Straw	275.31	
Fertilizer, Seeds, etc.	731.05	
Sundry Supplies	2,389.27	
Traveling Expenses	1,768.54	
Freight & Express	610.58	
Forestry	91.64	
Farmers Week	205.14	
Wood Account	6.10	
Postage, Printing & Stationery	1,261.65	
Extension Work (Smith- Lever Fund)	26,092.18	69,880.30

House Charges:

University Inn	1,085.36	
Commons	1,063.08	
North Hall	105.90	
Laundry	69.11	
Hospital	48.97	2,372.42

Sundry Accounts:

Prizes	105.00	
Summer Term, 1916	1,646.58	
Profit & Loss	28.95	1,780.53
		<hr/>
		\$315,008.25
Surplus		17,841.28
		<hr/>
		\$332,849.53

MAINE AGRICULTURAL EXPERIMENT STATION.

Statement showing Receipts and Expenditures,

July 1, 1916 to June 30, 1917, inclusive.

	Balance June 30, 1916	Receipts	Expenditures	Balance June 30, 1917
Adams Fund.....	\$-----	\$ 15,000.00	\$ 15,000.00	\$-----
Hatch Fund.....	\$-----	\$ 15,000.00	\$ 15,000.00	\$-----
General Account.....	\$ 243.24	\$ 6,658.34	\$ 8,165.79	\$ 1,264.21*
Inspection Analysis.....	\$ 1,922.88*	\$ 12,275.16	\$ 12,755.14	\$ 2,402.81*
Inspection Analysis Receipts.....	\$ 61.32	\$ 377.66	\$ 367.10	\$ 71.88
Animal Husbandry Account.....	\$-----	\$ 5,000.00	\$ 4,940.03	\$ 59.97
Aroostook Farm.....	\$ 3,585.97*	\$ 11,750.49	\$ 11,042.24	\$ 2,877.72*
Aroostook Farm Potato Pathology.....	\$-----	\$ 206.22	\$ 160.58	\$ 45.64
Aroostook Farm Horticulture.....	\$-----	\$ 1,051.34	\$-----	\$ 1,051.34
Sheep Account.....	\$ 722.00*	\$ 881.53	\$ 159.53	\$-----

*Deficit Balance

Respectfully submitted,

CHARLES J. DUNN,

Treasurer University of Maine

To the Trustees

University of Maine.

7/18

The Maine Bulletin

Entered at the Post Office at Orono as second class matter
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Vol. XX

University of Maine, Orono, Maine, October, 1918

No. 1

ANNUAL REPORT

UNIVERSITY OF ILLINOIS LIBRARY

of the

UNIVERSITY OF MAINE

For the Year Ended June 30, 1918



PRINTED AT THE
UNIVERSITY PRESS
ORONO, MAINE

CONTENTS

Letter of Transmissal.....	3
Report of the President of the University.....	4-9
Report of the Treasurer of the University.....	10-19

Letter of Transmissal from the President of the Board of
Trustees

To the Honorable Governor and Council of the State of Maine:

I have the honor on behalf of the Board of Trustees of the University of Maine to transmit to you the annual report of the university for the year ending June 30, 1918.

Respectfully submitted,

S. W. GOULD,

President of the Board of Trustees

To the Board of Trustees of the University of Maine:

I herewith present to you my eighth annual report. This report contains a summary of the activities of the past year, a brief statement of present problems, and an outline of necessary and desirable developments for the future.

The attendance for the year ending June 30th, 1918 was three hundred sixty three below that of the preceding year. The students were distributed as follows:

Graduates	9
College of Agriculture.....	191
College of Arts and Sciences.....	326
College of Law.....	34
College of Technology.....	353
<hr/>	
Total Enrollment.....	913

The large decrease in attendance was due to war conditions. More than one thousand University of Maine men were with the colors either on land or sea. Several hundred of these were undergraduates, who in normal times would have been in school.

The proportion of students pursuing regular courses as candidates for degrees is steadily increasing. For the year ending June 30th, 1911, only 68% of the students enrolled were candidates for degrees. For the year 1916-17 the candidates for degrees amounted to 84.7% of the total attendance. For the year covered by this report the per cent had increased to 87.9. The candidates for degrees were distributed as follows:

Graduates	9
College of Agriculture.....	170
College of Arts and Sciences.....	259
College of Law.....	22
College of Technology.....	342
<hr/>	
Total of Candidates for	
Degrees.....	802

At the 1918 Commencement held May 20th, degrees were conferred as follows:

Bachelor of Arts.....	27
Bachelor of Pedagogy.....	2
Bachelor of Science in Agriculture.....	35
Bachelor of Laws.....	14
Bachelor of Science in Technology.....	32
Graduate in Pharmacy.....	5
Master of Arts.....	1
Chemical Engineer	1
Civil Engineer.....	2
Certificate in Home Economics.....	2
Certificate in Agriculture.....	9
<hr/>	
Total	130

The academic work of the year was very satisfactory. The members of the faculty willingly assumed extra duties and co-operated in every possible way to make the work of the University a success. The students showed an interest and earnestness above that of previous years. Under the leadership of Lt. Col. Frank R. Lang unusually good work was done in Military Science and Tactics. A large number of men were fitted for Officers' Training Camps and are now commissioned officers in the service of the country.

The extension work of the College of Agriculture has grown in magnitude and in importance. The agricultural workers, the gardeners, the home makers, and the boys and girls of the clubs are all receiving expert help from the members of the extension staff. The value of this work to the state can hardly be overstated.

Because of reduction in the teaching force and difficulties in the financial situation, extension work in technology was discontinued. It is hoped that upon the return of peace this work may be taken up again. Its value has been thoroughly proven. The manufacturing and business interests of the state are in complete sympathy with the work, and are anxious to have it resumed.

The death of Dr. A. J. Raggio, Professor of Spanish and

Italian, occurred in the early part of the fall semester. He was a superior teacher, a thorough scholar, a sincere friend and a patriotic citizen. The University profited much by his many years of faithful service.

During the first seven of the past eight years the University had a steady growth, the increase in student attendance being nearly 100%. This greatly enlarged student body made necessary many additions to the faculty. During this period many institutions of similar grade increased salaries from 25% to 50%. The average increase here was less than 20%. It must also be remembered that the increase here was upon salaries which were uniformly lower than in institutions of similar grade. During this time many strong men have left the University of Maine to accept positions in other institutions where salaries and conditions were better. Great difficulties have been experienced in filling the vacancies thus made.

In this same period, through the generosity of the State, three large and greatly needed buildings have been constructed. They are Balentine Hall, a dormitory for women, Aubert Hall for the Departments of Chemistry and Physics, and the Dairy Barns. In each case the appropriation was fully expended for the construction of the building. The equipment of the buildings, the extension of heat lines, the enlargement of the heating plant, and the increased cost of upkeep have had to come out of the regular maintenance fund. In the past two years there has been a great increase in the cost of all material used, especially fuel, and a necessary increase in the wages paid to laborers. The income of the institution has not been sufficient to keep the University going, to accommodate the students seeking instruction, and to meet the extra financial demands described above. As a result a deficit exists. This situation was foreseen and included in the estimates made two years ago. Had the institution received the amount asked for at that time, no deficit would exist today, except a small one due to money advanced for the care of the Student Army Training Corps.

The University is supported by state and nation and tries to be of maximum service to the citizens of both. In order to be efficient two things are of supreme importance; the faculty and the working equipment.

The faculty should be made up of men and women who know how to teach and who are specially trained in the subjects they profess. The working conditions should be as favorable as are found in other similar institutions. There should be members enough in the faculty to make large classes unnecessary, and to make possible close relationship between teacher and student. The salaries paid should be so generous that members of the faculty would not find it necessary to seek employment during vacations in order to make a living.

The working equipment of a university consists of buildings, laboratories, apparatus and books. Buildings and laboratories are permanent. They should be kept in good repair and increased only as the student body grows. Apparatus and books are constantly changing. Every advance in science not only scraps the old apparatus, but makes it necessary to purchase new. The maintenance of adequate laboratories in fifteen different sciences will always be expensive. Every subject of study represented in the institution is dependent upon books,—old books for its history and development, new books for present day activities and discoveries. If the library is to be kept efficient for thirty-six departments, large appropriations for its support must be made annually.

The University of Maine contributed generously to the winning of the war. Her material resources, her faculty, her students, and her alumni were all used freely by the government. This service in a great cause has broadened the field of opportunity and made the institution anxious to render greater service in the future.

Peace, if it is to be enduring, has problems as serious as those of war. The world must be rehabilitated. Adjustments to the new conditions should be made with as little friction and loss as possible. The war taught us the value of science and skill. The activities of peace will surely be based upon knowledge. The conclusion of the whole matter is that the need for higher education is greater now than ever.

In agriculture there is increased need for well trained men as farmers, farm superintendents, extension workers, investigators, and teachers. The state has accepted the provisions of the Smith-Hughes vocational bill, and expects the Univer-

sity to prepare teachers for the schools established under this act. A competent Professor of Agricultural Education has been employed to aid in this work. The college of Agriculture needs increased revenues.

The Department of Home Economics is training many girls to be home makers or teachers. For the latter purpose increased facilities are necessary to meet the demands of the vocational schools.

The College of Arts and Sciences is giving a liberal education to many men and women. It is preparing them for business, for entrance to professional schools, for investigators, and for teaching. This college should be strengthened as soon as possible by the establishment of a Department of Geology.

The College of Law, in common with other law schools, has suffered great loss in enrollment. It is believed that normal attendance will soon be restored. The appointment of a dean and additional professors should receive early consideration.

The College of Technology is training many men in Chemical, Civil, Electrical and Mechanical Engineering, and in Pharmacy. The need of trained men in each of these subjects is urgent. The college needs a great deal of new equipment and apparatus. This college ought to be preparing teachers for vocational schools. The expense for necessary equipment would not be great. Only two or three additional instructors would be necessary. It is a field of work and service that ought to be entered at an early date.

The Experiment Station maintains laboratories at Orono, and manages the experimental farms in Monmouth and Presque Isle. The station makes investigations in agricultural science and does inspection work for the Commissioner of Agriculture. The state appropriates annually \$5,000. for investigations in Animal Husbandry and a like amount for work at Aroostook Farm. The U. S. government furnishes \$30,000 annually. The remainder of the income is from sales of products and from inspection fees.

Several new buildings are needed. This need, however, is not so urgent as is the need for adequate funds for salaries,

equipment and general upkeep. Unless more money is available, it will be necessary to eliminate courses and discontinue valuable and desirable activities.

Respectfully submitted,

ROBERT J. ALEY,

President, University of Maine.

REPORT OF THE TREASURER

UNIVERSITY OF MAINE

FOR THE FISCAL YEAR ENDED JUNE 30, 1918

ASSETS

Trust Fund Investments:

Coburn Trust Fund	Schedule A	\$100,000 00	
U. S. Land Scrip Fund	Schedule A	118,300 00	
Levi M. Stewart Fund	Schedule A	20,000 00	
David D. Stewart Fund	Schedule A	13,750 00	
Nehemiah Kittredge Loan Fund	Schedule B	1,564 90	
Kidder Scholarship Fund	Schedule B	750 00	
Maine Cannery Association			
Scholarship Fund	Schedule B	650 00	
Eugene Hale Scholarship Fund	Schedule B	200 00	
Joseph Rider Farrington			
Scholarship Fund	Schedule B	1,000 00	
Dr. E. G. Abbott			
Scholarship Fund	Schedule B	25 00	\$256,239 90
			<hr/>
Lands and Buildings			723,346 95
Inventories			292,857 15
Accounts Receivable	Schedule C		55,840 92
Bills Receivable	Schedule D		1,972 78
Cash on hand, June 30, 1918			7,504 91
			<hr/>
			\$1,337,762 61
			<hr/>

LIABILITIES

Trust Funds:

Coburn Trust Fund		\$100,000 00	
U. S. Land Scrip Fund		118,300 00	
Levi M. Stewart Fund		20,000 00	
David D. Stewart Fund		13,750 00	
Nehemiah Kittredge Loan Fund		1,564 90	
Kidder Scholarship Fund		750 00	
Maine Cannery Association			
Scholarship Fund		650 00	
Eugene Hale Scholarship Fund		200 00	
Joseph Rider Farrington			
Scholarship Fund		1,000 00	
Dr. E. G. Abbott			
Scholarship Fund		25 00	\$256,239 90
			<hr/>
Bills Payable	Schedule E		90,000 00

Accounts Payable	Schedule F	91,984 55
Surplus		899,538 16
		<hr/>
		\$1,337,762 61
		<hr/>

SCHEDULE A—ASSETS

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, maturing July 1, 1947 and bearing interest at 4% per annum, of the par value of \$100,000.00

United States Land Scrip Trust Fund Investment:

Under the provisions of An Act of the Congress of the United States, approved July 2, 1863, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has received an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1899, due June 1, 1919, bearing interest at 5% per annum, of the par value of \$118,300.00

The Levi M. Stewart Fund Investment:

This represents a fund received from Hon. David D. Stewart, executor and residuary legatee of Levi M. Stewart, late of Minneapolis, Minnesota, amounting to \$20,000.00

By special permission of the donor, this fund is temporarily invested as a part of the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall.

The David D. Stewart Fund Investment:

The gift of Hon. David D. Stewart of St. Albans, Maine, for the purpose of retiring notes of the University of Maine representing the balance unpaid on the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall, amounting to \$13,750.00

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge, of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same loans are made to needy students in the three upper classes. It is now invested as follows:

Thirty-three (33) promissory notes, signed by present and former students of the University, aggregating, exclusive of accrued interest	\$1,521.92
On Deposit in Bangor Savings Bank—Book No. 45602	42.98
	<hr/>
	\$1,564.90

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, of Denver, Colorado, Class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, amounting to \$750.00

This fund is now invested in Liberty Bonds—one of \$50.00, two of \$100.00 each and one of \$500.00. Said Bonds are deposited in Box 33 of the Orono Branch of the Old Town Trust Co.

Maine Cannery Association Scholarship Fund Investment:

A gift from Maine Cannery Association, of Portland, Maine, providing for scholarships of \$25.00 each \$650.00

This fund is on deposit in the Savings Department of the Old Town Trust Co., as per Book No. 2285.

Eugene Hale Scholarship Fund Investment:

The gift of Mrs. Eugene Hale, of Ellsworth, Maine, providing for scholarships of \$25.00 each \$200.00

This fund is on deposit in the Savings Department of the Old Town Trust Co., as per Book No. 2284.

Joseph Rider Farrington Scholarship Fund Investment:

The gift of Arthur M., Edward H., Oliver C., Horace P. and Wallace R. Farrington, all graduates of the University of

Maine and sons of Mr. and Mrs. Joseph Rider Farrington. Mr. Farrington was Farm Superintendent and Instructor in Agriculture in 1871-1878 and Professor of Agriculture in 1878-1879. The gift, which is made as a memorial to their parents, provides for a scholarship, under conditions named by the donors, and amounts to \$1,000.00

This gift comes to the University invested in a Pacific Mills First Mortgage Gold Bond, due in 1934, bearing interest at 6%. This bond is deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Dr. E. G. Abbott Scholarship Fund:

The gift of Dr. E. G. Abbott of Portland, Maine, providing for scholarship amounting to \$25.00

This fund is on deposit in the Savings Department of the Old Town Trust Co., as per Book No. 2343.

SCHEDULE C—ASSETS

Accounts Receivable:

Representing funds due the University
as follows:

Students' Accounts	\$ 1,615.52
Maine Agricultural Experiment Station	16,252.35
State of Maine, General Appropriation	10,625.00
State of Maine, U. S. Land Scrip Income	2,957.50
U. S. Government, Federal Troops Account	20,617.51
Other General Ledger Accounts	3,773.04
	<hr/> \$55,840.92

SCHEDULE D—ASSETS

Bills Receivable:

Represents sixty-six (66) promissory notes, signed by present and former students, given the University in settlement of tuition fees, term bills, etc., aggregating \$1,972.78

SCHEDULE E—LIABILITIES

Bills Payable:

Note No. 36 Merrill Trust Co., Bangor, Me. Demand	\$15,000.00
37 Merrill Trust Co., Bangor, Me. Demand	15,000.00
38 Merrill Trust Co., Bangor, Me. Demand	10,000.00
39 Merrill Trust Co., Bangor, Me. Demand	10,000.00
40 Merrill Trust Co., Bangor, Me. Demand	10,000.00
41 Merrill Trust Co., Bangor, Me. Demand	10,000.00
42 Merrill Trust Co., Bangor, Me. Demand	5,000.00
43 Merrill Trust Co., Bangor, Me. Demand	5,000.00
44 Merrill Trust Co., Bangor, Me. Demand	10,000.00
	<hr/>
	\$90,000.00

SCHEDULE F—LIABILITIES

Accounts Payable:

Audited Vouchers	\$62,420.05
Levi M. Stewart Loan Fund	20,000.00
State of Maine, Advance by State Treasurer on 1918-19 Appropriation for Co-operative Agriculture	7,679.49
U. S. Uniform Account	1,036.00
Forest Nursery Sales Account	788.17
Thesis Binding	21.00
Key Deposit	10.00
Phi Gamma Delta Fraternity	14.48
J. M. Bartlett	15.36
	<hr/>
	\$91,984.55

STATEMENT SHOWING INCOME FROM
ALL SOURCES**Income from Students:**

Registration fees		\$ 7,425.00
Tuition fees, General	\$24,627.00	
Tuition fees, College of Law	2,685.00	27,312.00
	<hr/>	

Incidental fees	21,675.00	
Special fees for late registration, diplomas, etc.	839.91	
For Dormitories	10,027.70	\$ 67,279.61

Income from Investments:

Endowments for General Purposes (Coburn)	4,000.00	
Rents	2,058.93	6,058.93

Income from Grants by State and Nation:

State—		
Appropriation for Maintenance	127,500.00	
Appropriation for Cooperative Agriculture	11,702.08	
Federal Aid—		
Income from Land Grant—Act of July 2, 1862	5,915.00	
Additional Endowments—Acts of Aug. 30, 1890 and Mar. 4, 1907	50,000.00	
Cooperative Agriculture (Smith-Lever Fund), Act of May 8, 1914	21,702.08	216,819.16

Income from Departments:

Civil Engineering	98.39	
University Press	3,825.23	
Law Library	13.61	
Museum	338.75	
Music	30.83	4,306.81

Income from other sources:

College General, Laboratory Fees	7,109.27	
College of Agriculture, Laboratory fees	1,259.60	
College of Agriculture, Sundry Sales	12,651.93	
College of Agriculture, Horses	15.00	
College of Agriculture, Cows	735.00	
College of Agriculture, Poultry	28.40	
College General, Profit & Loss	11.07	21,810.27
		<hr/>
		\$316,274.78

STATEMENT SHOWING TOTAL EXPENDITURES**Salaries:**

Salaries of Officers	\$ 10,016.58	
Salaries of Instructors	119,969.42	\$129,986.00

Administration Expenses:

Advertising	384.66	
Clerk Hire	5,472.68	
Commencement	340.61	
Freight & Express	1,360.83	
Office Supplies & Postage	1,428.31	
Printing & Binding	8,178.84	
Telephone & Telegraph	735.63	
Traveling Expenses	675.77	
Interest & Discount	4,738.32	
Thesis Binding	22.90	
Miscellaneous	386.38	23,724.93
		<hr/>

Maintenance of Property:

Repairs to Buildings	3,637.92
Care of Buildings	8,755.93
Furnishings & Fixtures	177.40

Insurance	3,307.17	
Grounds	1,672.89	17,551.31

Power, Heat, Light & Water:

Labor	8,557.52	
Supplies	5,212.37	
Electricity	2,031.48	
Coal	40,232.78	
Freight & Express	619.48	
Water	1,473.39	58,127.02

House Charges:

University Inn	968.84	
Commons	530.58	
Laundry	248.38	1,747.80
		<u>\$231,137.06</u>

Department Expenses:

Electrical Engineering	\$ 448.99
College of Law	1,562.32
Library	1,383.81
Mathematics & Astronomy	40.06
Mechanical Engineering	3,077.27
Mechanics & Drawing	831.94
Military Science	573.86
Physical Training	100.02
Latin	3.50
English	131.76
History	3.75
Greek & Classical Archeology	26.80
Philosophy	8.50
Biology	359.46
Chemistry	1,722.71
Pharmacy	284.77

Physics	974.86	
Technology Extension	488.31	
College of Agriculture:		
Pay of Employees	11,865.17	
Equipment	449.23	
Feed	10,855.20	
Hay & Straw	1,054.17	
Fertilizer, Seeds, etc.	1,332.40	
Sundry Supplies & Miscellaneous	2,578.27	
Traveling Expenses	746.62	
Postage, Printing & Stationery	1,062.75	
Freight & Express	688.18	
Forestry	98.45	
Other Live Stock	380.00	
Farmers Week	216.43	
Extension Work (Smith- Lever Fund)	33,404.16	76,753.72
	<hr/>	

Sundry Accounts:

Prizes	125.00	
Summer Term, 1917	1,339.20	
Summer Term Board, 1917	38.61	
Profit & Loss	360.82	1,863.63
	<hr/>	

Surplus

\$309,754.41

6,520.37

\$316,274.78

MAINE AGRICULTURAL EXPERIMENT STATION

Statement showing Receipts and Expenditures

July 1, 1917 to June 30, 1918, inclusive

Account	Balance June 30, 1917	Receipts	Expenditures	Balance June 30, 1918
Adams Fund.....	\$-----	\$ 15,000.00	\$ 15,000.00	\$-----
Hatch Fund.....	\$-----	\$ 15,000.00	\$ 15,000.00	\$-----
General Account.....	\$ 1,264.21*	\$ 8,246.44	\$ 9,550.73	\$ 2,568.50*
Inspection Analysis.....	\$ 2,402.81*	\$ 11,771.31	\$ 11,884.92	\$ 2,516.42*
Inspection Analysis Receipts.....	\$ 71.88	\$ 187.32	\$ 249.80	\$ 9.40
Animal Husbandry Account.....	\$ 59.97	\$ 5,000.00	\$ 5,059.97	\$-----
Aroostook Farm.....	\$ 2,877.72*	\$ 12,544.02	\$ 11 842.57	\$ 2,176.27*
Aroostook Farm Potato Pathology.....	\$ 45.64	\$-----	\$-----	\$ 45.64
Aroostook Farm Horticulture....	\$ 1,051.34	\$ 1,135.93	\$ 2,156.92	\$ 30.35

*Deficit Balance

Respectfully submitted,

CHARLES J. DUNN,

Treasurer, University of Maine.

To the Trustees

University of Maine.

28B

1918/19

The Maine Bulletin

Entered at the Post Office at Orono as second class matter
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Vol. XXI University of Maine, Orono, Maine, September, 1919 No. 6

ANNUAL REPORT

of the

UNIVERSITY OF ILLINOIS LIBRARY

UNIVERSITY OF MAINE

For the Year Ended June 30, 1919



PRINTED AT THE
UNIVERSITY PRESS
ORONO, MAINE

UNIVERSITY OF ILLINOIS

CONTENTS

Letter of Transmissal.....	3
Report of the President of the University.....	4-8
Report of the Treasurer of the University.....	9-19

Letter of Transmissal from the President of the Board of
Trustees

To the Honorable Governor and Council of the State of Maine:

I have the honor on behalf of the Board of Trustees of the University of Maine to transmit to you the annual report of the University for the year ending June 30, 1919.

Respectfully submitted,

S. W. GOULD,

President of the Board of Trustees

To the Board of Trustees of the University of Maine:

I herewith present to you my ninth Annual Report. In this report I give a brief summary of University affairs for the past year.

In common with other educational institutions the University of Maine suffered in its attendance and academic activities because of war conditions. High prices, reduced attendance, lack of a sufficient teaching force, and general disturbed conditions, united to make the year one of extreme difficulty. It is a pleasure to state that the faculty met these adverse conditions with fine spirit and splendid courage. All worked diligently to bring about better conditions, and to restore again to the University a high academic standard.

In August 1918, the War Department made plans for the organization of the Student Army Training Corps. The University of Maine accepted the conditions and entered into a contract with the War Department to maintain a corps at the institution. About 660 men appeared as applicants for membership. Of this number 629 were accepted and sworn in to the service of the country as soldiers or sailors. Special courses outlined by the Government were arranged to meet the needs of these young men. It was demonstrated early in the experiment that it was not possible to get a very high grade of academic work from young men who were soldiers on full pay and active duty. The officers and faculty of the University of Maine did everything in their power to carry out the Governmental requirements. Our experience was about an average. Some institutions had fewer troubles and others had more. At no one of the more than five hundred institutions engaged in the work was the experiment a success. And yet no institution regrets that it undertook the work. It was a patriotic service. We were all glad, however, when the Armistice came and demobilization occurred.

During the Fall term in addition to the members of the S. A. T. C. we had 228 civilian students. It was impossible to maintain for these civilians the usual high grade of work. Sickness interfered and added to the general confusion caused by the breaking up of ordinary college customs and methods,

Following demobilization it was decided to have two terms of three months each and to arrange the work so that any student completing satisfactorily the courses taken in these two terms would meet the requirements of a year's resident work. Nearly 700 students entered and took the work of the winter and spring terms. By the middle of the second term a most desirable spirit of earnestness and cooperation was evident. That fine thing known as "Maine Spirit" was again active in the life of the student body.

At the 1919 Commencement, held June 23d, the following degrees were conferred:

Bachelor of Science in Agriculture.....	23
Bachelor of Arts.....	44
Bachelor of Pedagogy.....	1
Bachelor of Laws.....	5
Bachelor of Science in Technology.....	26
Master of Laws.....	1
Electrical Engineer.....	1

By action of the Board of Trustees degrees appropriate to the courses pursued were granted to the following men who had spent at least two years in the institution and who had made the supreme sacrifice for their Country:

As of the Class of 1917

Albert Lavorgna, B. S.	Civil Engineering
Charles A. Rice, B. A.	Economics & Sociology

As of the Class of 1918

Harold T. Andrews, B. A.	Economics & Sociology
Willett Clark Barrett, B. A.	German
Thomas M. Brittain, B. S.	Chemistry
Herbert G. Cobb, B. S.	Agriculture
Frank Holden, B. S.	Mechanical Engineering
Lucian T. Libby, B. S.	Chemical Engineering
Donald W. Norton, B. S.	Chemistry
Gerald R. Stott, B. S.	Chemical Engineering

Richard R. Wells, B. A.	Economics and Sociology
James H. Gray, B. S.	Agriculture
S. Tracy Webster, B. S.	Chemical Engineering

The honorary degree, Doctor of Laws, was conferred upon :

Bishop Edwin Holt Hughes of the Methodist Church

Dr. Raymond Pearl of John Hopkins University

Martin Grove Brumbaugh, Ex-Governor of Pennsylvania

Carl E. Milliken, Governor of the State of Maine

George Ware Stephens, Professor of Economics and Sociology,
University of Maine

The University made a contract with the War Department in the Spring of 1918 to give vocational education to drafted men. Under this contract three units of 200 men each were cared for. The men were under as strict military discipline as though they had been at a regular Army Camp. The University furnished instruction in Auto Mechanics, Electricity, Carpentering, Gas Engines, Blacksmithing and Machine Shop Practice. The work was intensive and was planned to give the most practical results that could be obtained in a short time. The men took great interest in the work and the results were satisfactory to the Army officers.

The service flag of the University contains 1700 stars. Of these 1700 men who wore the uniform of the army or navy 36 gave up their lives. During Commencement week Memorial Services were held for these men. A sermon, remarkable for its simplicity and loving sympathy, was preached by Bishop Edwin Holt Hughes. Of the Maine men in the service 342 held Commissions. It is planned to issue, at an early date a service record in which the name, address, and service of every Maine man will be fully recorded.

Quite a number of the members of the faculty were called into special service by the Government. Among these are Dr. Raymond Pearl, Dr. Frank Surface, Prof. H. H. Hanson, from the Experiment Station staff, and Dr. Jacob Segall, Dr. Caroline Colvin, Dr. H. R. Willard, and Dr. Lowell Reed from the University faculty. These all gave service of great value. Unfortunately for the University a number of them were so conspicuous in their service as to be called to larger positions

elsewhere. It is fortunate, however, that Professors Segall, Colvin, and Willard are to resume their places in the University at the beginning of the next college year. The University will have the benefit of their wide and varied experiences.

Dr. William J. Young, Professor of Physical Training, and Director of Athletics, entered the Medical Department of the military service and rose to the position of Captain. He served about two years, nearly one of which was on the other side. Assistant Professor R. M. Holmes of the Department of Physics was a private soldier assigned to special duty in the Meteorological Service. Assistant Professor Wilbur of the Department of Animal Industry was in an Officers Training Camp, Machine Gun Organization, at Camp Hancock, Georgia.

Dean Merrill of the College of Agriculture was Food Administrator for Maine. He organized this work and carried it on with the skill and devotion that characterizes all his undertakings. He was able to inject into all those associated with him a spirit of patriotic service so that they united with him and made the work of this important department highly pleasing to the Government and to the authorities of the State. Dean Merrill deserves high praise for this splendid service in which he spared not himself.

The Extension Service of the University of Maine deserves special mention because of its extent and efficiency. This work is organized as a division of the College of Agriculture and is under the direct control of Dean Leon S. Merrill. For the past year each County of the State has had the service of a County Agent who has been in immediate charge of the work in his territory. Specialists have been employed in Dairying, Farm Management, Poultry Management, Sheep Husbandry, Plant Pathology, and Entomology. These specialists assist and cooperate with the county agents in carrying on the work. Splendid work with the boys and girls has been organized and carried on by the State Club leaders. The women of the State have received great assistance through the Home Economics work carried on in the various counties in cooperation with the County Agent work. The expense of the extension work is met from funds contributed by the Federal Government, the State Government, the General Education Board, and the Uni-

versity, the latter contributing but a very small amount. The total funds used during the past year amounted to \$103,931.07. It is doubtful if any enterprise carried on by the University yields immediate results of so great value as the Agricultural Extension service. Through this activity the good name of the University is carried to every corner of the State.

In my report of one year ago I called attention to the fact that the income of the institution had not been sufficient to meet the needs, and that as a result a deficit existed. The facts concerning this deficit were presented to the Legislature and a request made for a special appropriation of \$100,000.00 to take care of it. The appropriation was not made. The deficit still exists and must be carried to the next Legislature.

The Legislature of 1919 increased the appropriation for maintenance \$42,500.00 a year, making it for the present biennium \$170,000.00 a year. The increase is barely sufficient to make needed repairs and pay the slight increases in salary absolutely necessary to maintain a high grade faculty.

The outlook for the future is bright. The faculty for the coming year will be as strong in every department as the University has ever had. The English Department which has been without a Head for two years will be in charge of Dr. H. M. Ellis, a Maine University graduate, Ph. D. from Harvard, who comes back to his Alma Mater after a wide and successful experience in other Universities. He will have associated with him a corps of able and enthusiastic instructors. There is every reason to believe that his department will take a high place among the departments of the University.

The present indications are that a very large number of former students who left college to serve in the army or navy will return in September to finish their work. The number of entering students promises to be unusually large.

Respectfully submitted,

ROBERT J. ALEY,

President, University of Maine.

REPORT OF THE TREASURER

UNIVERSITY OF MAINE

FOR THE FISCAL YEAR ENDED JUNE 30, 1919

ASSETS

Trust Fund Investments:

Coburn Trust Fund	Schedule A	\$100,000 00	
U. S. Land Scrip Fund	Schedule A	118,300 00	
Levi M. Stewart Fund	Schedule A	20,000 00	
David D. Stewart Fund	Schedule A	13,750 00	
Nehemiah Kittredge Loan Fund	Schedule B	1,679 03	
Kidder Scholarship Fund	Schedule B	750 00	
Maine Cannery Association			
Scholarship Fund	Schedule B	975 00	
Eugene Hale Scholarship Fund	Schedule B	350 00	
Joseph Rider Farrington			
Scholarship Fund	Schedule B	1,000 00	
Dr. E. G. Abbott			
Scholarship Fund	Schedule B	50 00	
American Institute Electrical			
Engineers Loan Fund	Schedule B	67 00	\$256,921 03
			<hr/>
Lands and Buildings			724,673 95
Inventories			317,565 53
Accounts Receivable	Schedule C		50,366 01
Bills Receivable	Schedule D		1,890 28
Cash on hand June 30, 1919			4,749 91
			<hr/>
			\$1,356,166 71

LIABILITIES

Trust Funds:

Coburn Trust Fund	\$100,000 00
U. S. Land Scrip Fund	118,300 00
Levi M. Stewart Fund	20,000 00
David D. Stewart Fund	13,750 00
Nehemiah Kittredge Loan Fund	1,679 03
Kidder Scholarship Fund	750 00
Maine Cannery Association	
Scholarship Fund	975 00
Eugene Hale Scholarship Fund	350 00
Joseph Rider Farrington	
Scholarship Fund	1,000 00

Dr. E. G. Abbott		
Scholarship Fund	50 00	
American Institute Electrical		
Engineers Loan Fund	67 00	\$256,921 03
<hr/>		
Bills Payable	Schedule E	110,000 00
Accounts Payable	Schedule F	104,072 18
Surplus		885,173 50
<hr/>		
		\$1,356,166 71
<hr/>		

SCHEDULE A—ASSETS

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, maturing July 1, 1947 and bearing interest at 4% per annum, of the par value of \$100,000.00

United States Land Scrip Trust Fund Investment:

Under the provisions of An Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has received an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1919, due June 1, 1949, bearing interest at 5% per annum, of the par value of \$118,300.00

The Levi M. Stewart Fund Investment:

This represents a fund received from the late Hon. David D. Stewart, executor and residuary legatee of Levi M. Stewart, late of Minneapolis, Minnesota, amounting to \$20,000.00

By special permission of the donor, this fund is temporarily invested as a part of the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall.

The David D. Stewart Fund Investment:

The gift of Hon. David D. Stewart, late of St. Albans, Maine, for the purpose of retiring notes of the University of Maine representing the balance unpaid on the purchase price of the College of Law Building in Bangor, Maine, known as Stewart Hall, amounting to

\$13,750.00

SCHEDULE B—ASSETS**Nehemiah Kittredge Loan Fund Investment:**

This fund was established by Nehemiah Kittredge, late of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same loans are made to needy students in the three upper classes. It is now invested as follows:

Twenty-five (25) promissory notes, signed by present and former students of the University, aggregating, exclusive of accrued interest

\$1,156.92

On deposit in Bangor Savings Bank—Book #45602

522.11

\$1,679.03

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, late of Denver, Colorado, Class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, amounting to

\$750.00

This fund is now invested in Liberty Bonds—one of \$50.00, two of \$100.00 each and one of \$500.00.

Said Bonds are deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Maine Cannery Association Scholarship Fund Investment:

A gift from Maine Cannery Association, of Portland, Maine, providing for scholarships of \$25.00 each

\$975.00

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2285.

Eugene Hale Scholarship Fund Investment:

The gift of Mrs. Eugene Hale, of Ellsworth, Maine, providing for scholarships of \$25.00 each \$350.00

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2284.

Joseph Rider Farrington Scholarship Fund Investment:

The gift of Arthur M., Edward H., Oliver C., Horace P. and Wallace R. Farrington, all graduates of the University of Maine and sons of the late Mr. and Mrs. Joseph Rider Farrington. Mr. Farrington was Farm Superintendent and Instructor in Agriculture in 1871-1878 and Professor of Agriculture in 1878-1879. The gift, which is made as a memorial to their parents, provides for a scholarship, under conditions named by donors, and amounts to \$1,000.00

This gift comes to the University invested in a Pacific Mills First Mortgage Gold Bond, due in 1934, bearing interest at 6%. This Bond is deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Dr. E. G. Abbott Scholarship Fund:

The gift of Dr. E. G. Abbott of Portland, Maine, providing for scholarship amounting to \$50.00

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2343.

American Institute of Electrical Engineers Loan Fund:

The gift of the U. of M. Section of the A. I. E. E. for the benefit of the three upper classes

taking the electrical course, amounting to \$67.00

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2646.

SCHEDULE C—ASSETS

Accounts Receivable:

Representing funds due the University
as follows:

Students' Accounts	\$ 1,396.29
Maine Agricultural Experiment Station	19,158.47
State of Maine General Appropriation	14,166.67
U. S. Government S. A. T. C. Naval Unit	7,267.47
Companies and Individuals	8,377.11
	<hr/>
	\$50,366.01

SCHEDULE D—ASSETS

Bills Receivable:

Represents sixty-three (63) promissory notes, signed by present and former students, given the University in settlement of tuition fees, term bills, etc., aggregating \$1,890.28

SCHEDULE E—LIABILITIES

Bills Payable:

Note No. 36	Merrill Trust Co., Bangor, Me.	Demand	\$15,000.00
37	Merrill Trust Co., Bangor, Me.	Demand	15,000.00
38	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
39	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
40	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
41	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
42	Merrill Trust Co., Bangor, Me.	Demand	5,000.00
43	Merrill Trust Co., Bangor, Me.	Demand	5,000.00

44	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
45	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
46	Merrill Trust Co., Bangor, Me.	Demand	5,000.00
47	Merrill Trust Co., Bangor, Me.	Demand	5,000.00

\$110,000.00

SCHEDULE F—LIABILITIES

Accounts Payable:

Audited Vouchers	\$82,097.40
Levi M. Stewart Loan Fund	20,000.00
U. S. Uniform Account	1,036.00
Forest Nursery Sales Account	720.38
Experiment Station Sales Account	90.58
Government Property Replacement Fund	18.83
Thesis Binding	21.75
Key Deposit	10.00
Companies and Individuals	77.24

\$104,072.18

STATEMENT SHOWING INCOME FROM ALL SOURCES

Income from Students:

Registration fees	\$ 6,227.00
Tuition fees, General	37,406.60
Tuition fees, College of Law	552.04
Incidental fees	15,006.16
Special fees for late registration, diplomas, etc.	574.91
From Dormitories (Net)	11,284.27
	<hr/> \$ 71,050.98

Income from Investments:

Endowments for General Purposes (Coburn)	4,000.00
---	----------

Rents	2,376.15	6,376.15
-------	----------	----------

Income from Grants by State and Nation:

State—

Appropriation for Maintenance	148,750.00
Appropriation for Cooperative Agriculture	15,358.98

Federal Aid—

Income from Land Grant—Act of July 2, 1862	5,915.00	
Additional Endowments—Acts of Aug. 30, 1890 and Mar. 4, 1907	50,000.00	
Cooperative Agriculture (Smith-Lever Fund) Act of May 8, 1914	25,358.98	
Assistance in Agricultural instruction in Secondary Schools (Smith-Hughes Fund), Act of Feb. 13, 1917	2,400.00	247,782.96

Income from Departments:

Greek	11.30	
Music	23.69	34.99

Income from Other Sources:

College General, Laboratory Fees	4,723.30	
College of Agriculture, Laboratory fees	870.24	
College of Agriculture, Sundry Sales	24,171.16	
College of Agriculture, Horses	160.00	
College of Agriculture, Cows	975.00	
College of Agriculture, Poultry	153.65	
College of Agriculture, Other Live Stock	42.00	
College General—Profit & Loss	184.24	31,279.59

Total Income	356,524.67
Deficit	14,364.66
	<hr/>
	\$370,889.33

STATEMENT SHOWING TOTAL EXPENDITURES

Salaries:

Salaries of Officers	\$ 8,486.01	
Salaries of Instructors	118,492.24	\$126,978.25
	<hr/>	

Administration Expenses:

Advertising	533.91	
Clerk Hire	5,300.82	
Commencement	574.04	
Freight & Express	885.69	
Office Supplies & Postage	1,701.01	
Printing & Binding	5,487.97	
Telephone & Telegraph	869.74	
Traveling Expenses	1,778.63	
Interest & Discount	6,201.73	
Miscellaneous	760.57	24,094.11
	<hr/>	

Maintenance of Property:

Repairs to Buildings	5,987.90	
Care of Buildings	10,984.46	
Furnishings & Fixtures	1,867.07	
Insurance	3,218.53	
Grounds	3,227.06	25,285.02
	<hr/>	

Power, Heat, Light & Water:

Labor	11,834.50
Supplies	9,867.28
Electricity	2,603.81

Coal	57,763.73	
Freight & Express	249.57	
Water	1,447.43	83,766.32
	<hr/>	

House Charges:

Farm Boarding House	(Net)	1,476.52	
University Inn	"	1,544.14	
Phi Gamma Dormitory	"	36.91	
Commons	"	3,209.64	
Laundry	"	387.41	6,654.62
		<hr/>	

Department Expenses:

Civil Engineering	\$ 1,377.46
Electrical Engineering	573.04
College of Law	23.81
Law Library	30.66
Library	1,545.23
Mathematics & Astronomy	4.00
Mechanical Engineering	2,090.32
Mechanics & Drawing	389.00
Military Science	949.67
Physical Training	431.40
English	200.91
Biology	449.57
Chemistry	1,505.30
Physics	760.93
Technology	182.20
Museum	52.15
History	57.05
Economics & Sociology	29.63
University Press	1,383.56
College of Agriculture:	
Pay of Employees	17,250.68
Equipment	339.07
Feed	14,056.99
Hay & Straw	4,117.19

Fertilizer, Seeds, etc.	2,427.53	
Sundry Supplies & Miscellaneous	1,398.29	
Traveling Expenses	824.36	
Postage & Printing	789.54	
Freight & Express	876.98	
Farmers Week	210.74	
Forestry	16.87	
Extension Work (Smith- Lever Fund)	40,717.96	\$ 95,062.09

Sundry Accounts:

Prizes	50.00	
Profit & Loss—		
U. S. Government, Federal Troops Account	249.78	
U. S. Government, Students' Army Training Corps Account	8,382.73	
Worthless Accounts written off and miscellaneous	366.41	9,048.92
Total Expenditures		\$370,889.33

MAINE AGRICULTURAL EXPERIMENT STATION

Statement showing Receipts and Expenditures

July 1, 1918 to June 30, 1919, inclusive

Account	Balance June 30, 1918	Receipts	Expenditures	Balance June 30, 1919
Adams Fund.....	\$-----	\$ 15,000.00	\$ 15,000.00	\$-----
Hatch Fund.....	\$-----	\$ 15,000.00	\$ 15,000.00	\$-----
General Account.....	\$ 2,568.50*	\$ 7,992.26	\$ 5,391.41	\$ 32.35
Inspection Analysis.....	\$ 2,516.42*	\$ 11,153.11	\$ 11,839.25	\$ 3,202.56*
Inspection Analysis Receipts....	\$ 9.40	\$ 159.47	\$ 165.46	\$ 3.41
Animal Husbandry Account.....	\$-----	\$ 5,000.00	\$ 5,000.00	\$-----
Brookstock Farm.....	\$ 2,176.27*	\$ 12,386.51	\$ 15,097.72	\$ 4,887.48*
Highmoor Farm.....	\$-----	\$ 1,636.15	\$ 4,156.15	\$ 2,500.00*
Brookstock Farm Potato Pathology.....	\$ 45.64	\$ 417.08	\$ 334.63	\$ 128.09
Brookstock Farm Horticulture....	\$ 30.35	\$ 1,881.35	\$ 1,673.35	\$ 238.35
Brookstock Farm Soil Fertility Investigation.....	\$-----	\$ 159.75	\$ 53.83	\$ 105.92

*Deficit Balance

Respectfully submitted,

CHARLES J. DUNN,

Treasurer, University of Maine.

To the Trustees

University of Maine.

288
9/19/20

UNIVERSITY OF ILLINOIS LIBRARY

The Maine Bulletin

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ANNUAL REPORT

OF THE

University of Maine

For the Year Ended June 30, 1920



PRINTED AT THE
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ORONO, MAINE

CONTENTS

Letter of Transmissal.....	3
President's Report	4
Treasurer's Report	13

Letter of Transmissal from the President of the Board of
Trustees

To the Honorable Governor and Council of the State of Maine:

I have the honor on behalf of the Board of Trustees of the University of Maine to transmit to you the annual report of the University for the year ended June 30, 1920.

Respectfully submitted,

S. W. GOULD,
President of the Board of Trustees

Report of the President of the University.

To the Board of Trustees of the University of Maine:

I herewith present to you my tenth annual report. In this report I set forth some conditions in regard to education in general, give a brief summary of the work of the year and indicate some of the needs of the immediate future.

The Educational Situation

The World War brought to the attention of all the people the great importance of knowledge. Educated men were in great demand. They contributed more than any other class to the solution of problems not only of warfare but of transportation, manufacturing, commerce, and production. One of the permanent results of the War is the increased interest in education. This shows in the larger number of students attending elementary schools, high schools, and colleges. Everywhere educational facilities are taxed to their limit. Industry and business are more insistent in their demands for educated men than ever before. Educational institutions of all grades are having unusual difficulty in finding men and women properly prepared and willing to teach. Departments of research and investigation not only have difficulty in securing capable men for the work but they find the number of students in these fields greatly reduced. The number of young men and women preparing to teach is not large enough to meet the regular demand. This condition makes the outlook for the future anything but bright.

A partial explanation of the results and difficulties indicated above is found in the totally inadequate pay for teachers and investigators. The enormous increases in living costs have made the salaries, always inadequate, of these men, entirely insufficient for their needs. It has been impossible for educational institutions to advance salaries in proportion to the increased cost of living. The incomes of educational institutions are fairly well fixed. They do not increase with prosperity as incomes

from industries or business increase. All over the world the same situation exists. If institutions of higher learning are to meet the demands made upon them their resources must be very greatly increased. In order to carry the pre-war load the income should be at least double what it was then. In addition to the pre-war load there is the extra load caused by the increased number of students. Institutions upon private foundations as well as those publicly supported have the same problems and are asking their constituents to meet the situation by increasing very greatly their endowments.

The corner stone of democracy is equal educational opportunity. Unless institutions of higher learning have increased financial support the number of students admitted must be limited. This situation already exists in a large number of institutions. It is very unfortunate for a privately supported college to be forced to turn away those who are properly prepared to meet its requirements. If a tax supported institution is compelled to limit its attendance equal opportunity guaranteed by the State is gone. It is not conceivable that the people of a State will permit such a condition to arise.

A table prepared by the Bureau of Education in 1919 shows that the per capita receipts of higher educational institutions supported by the State, normal schools not included, ranges from nine cents in Louisiana to \$2.43 in Nevada. The State of Maine stands number 31 in the list of States. It is preceded by such States as Nevada, Arizona, Wyoming, Utah, Idaho, Oregon, New Mexico, both the Dakotas, Vermont, New Hampshire, and Tennessee. It is gratifying that although the per capita cost in Maine is far below that in many other states the number of students taken care of and educated is very much larger than in many of the states which have a greater income. Throughout her history this institution has made every dollar yield the largest possible return.

The strength of an institution and its place among other institutions are determined by the character and quality of the members of its faculty. Scholarship, teaching ability, interest in research, and a passion for youth, combine to make the ideal college man. The University of Maine has been fortunate in securing many men who have these desirable qualities. The present conditions make the competition for high grade men

much keener than ever before. Other institutions and business corporations are seeking college men. They hold out the lure of large salaries, great libraries, and well equipped laboratories, with working and living conditions of a desirable kind. The young men and women of Maine and the people of the State are entitled to the best. We can have the best only by meeting adequately the opportunities offered elsewhere. With sufficient income it will be possible to keep at the University the best men, induce other good men to come, and get from them all the service that can never be measured in dollars. We should stop the long procession of splendid men and women that now moves on into other states. In the long run it is costly to train faculty members for permanent service elsewhere.

Attendance

The student attendance for the year was very satisfactory. All parts of the state of Maine were represented. The total enrollment was 1213. Of these 978 were men and 235 women. There were 1079 students from Maine and 134 students from other states. There were 1156 candidates for degrees distributed as follows:

Graduate students.....	21
College of Agriculture.....	213
College of Arts and Sciences.....	397
College of Law.....	13
College of Technology.....	512

The large increase over the attendance of the preceding year made it necessary to increase the teaching force and this added considerably to the expenses of the year.

Degrees

At the 49th Annual Commencement held Monday, June 7, 1920, degrees were conferred as follows:

Bachelor of Science, College of Agriculture.....	27
Bachelor of Arts, College of Arts and Sciences.....	69
Bachelor of Pedagogy, College of Arts and Sciences.....	1
Bachelor of Laws, College of Law.....	2

Bachelor of Science, College of Technology.....	60
Master of Arts.....	3
Master of Science.....	2
Mechanical Engineering	2
Civil Engineering.....	1
Electrical Engineering.....	2
Mechanical Engineering	2
Total.....	171

In addition to the above the following Honorary Degrees were conferred:

- Walter H. Sawyer, Hydraulic Engineer, Lewiston, Maine,
Master of Science.
- Eugene L. Folsom, Asst. General Manager of the Waltham
Watch Factory, Waltham, Mass., Master of Science.
- F. Lamson Scribner, Agristologist, U. S. Dept. of Agriculture,
Washington, D. C. Doctor of Laws.
- Calvin N. Kendall, Commissioner of Education, Trenton, N. J.
Doctor of Laws.
- Frank B. Gilbreth, Consulting Engineer, Boston, Mass.,
Doctor of Laws.
- L. B. Deasy, Assoc. Justice, Supreme Court, Bar Harbor,
Maine, Doctor of Laws.
- Scott Wilson, Assoc. Justice of Supreme Court, Portland, Maine,
Doctor of Laws.
- John A. Morrill, Assoc. Justice of Supreme Court, Auburn,
Maine, Doctor of Laws.
- Charles S. Dunn, Assoc. Justice, of Supreme Court, Orono,
Maine, Doctor of Laws.
- Warren C. Philbrook, Assoc. Justice of Supreme Court, Water-
ville, Maine, Doctor of Laws.
- Geo. M. Hanson, Assoc. Justice of Supreme Court, Calais, Me.,
Doctor of Laws.
- Leslie C. Cornish, Chief Justice of Supreme Court, Winslow,
Maine, Doctor of Laws.

The University of Maine has pursued throughout her history a conservative policy in the granting of Honorary Degrees. Such degrees are voted by the Trustees upon the recommenda-

tion of a committee of their number which has considered carefully the individuals presented to them. In common with the practice of the best institutions the University of Maine confers the Honorary Degree only when the person so honored is present at the exercises. During the life of the University 71 Honorary Degrees have been conferred. They are distributed as follows:

M. Ph.	1	C. E.	7	D. Eng.	1
M. E.	6	Sc. D.	6	Ph. D.	2
M. S.	10	L. H. D.	2	LL. D.	36

The University no longer confers M. Ph., M. E., C. E., Sc. D., D. Eng., or Ph. D. as honorary degrees.

College of Agriculture

The College of Agriculture carries on instruction in the departments of Agronomy, Animal Husbandry, Agricultural Education, Bacteriology and Veterinary Science, Forestry, Home Economics, Biological and Agricultural Chemistry, and Horticulture. Under the provisions of the Smith-Hughes Law this college prepares the teachers of Agriculture and Home Economics for Smith-Hughes schools. The increasing number of students preparing to teach these subjects argues well for the future secondary education in Home Economics and Agriculture. All departments of this college are doing excellent work. Special attention is called to the satisfactory advance in the Department of Horticulture. The Department of Animal Industry has made a good start on the development of pure bred dairy herds.

The Extension Department of the College of Agriculture is having a healthy and satisfactory growth. It is now completely organized over the entire State and is carrying on helpful work in all the Counties. The work of the State Leaders and specialists, county agents, and home demonstration agents is directed by Dean Merrill and his assistants. For this work the support is distributed as follows: Federal 55.61%; State 23.55%; County 20.84%; The value of the Extension service to the agricultural interests of the State is very great and is highly appreciated by the people.

College of Arts and Sciences

This college ranks first in the number of members in its faculty and second in its student body. It furnishes the instruction in general and non-technical subjects for the Colleges of Agriculture and Technology. In addition to this it gives a general college course leading to the A. B. degree. In recent years much attention has been given to the preparation of teachers for the secondary schools. Satisfactory progress is being made in this field. During the past year the Departments of English and Economics and Sociology have been in the hands of new professors. It is a great satisfaction to report that these departments are well organized and doing excellent work.

College of Technology

The emphasis upon technical and engineering subjects during the War is reflected in the increased interest and attendance in Colleges of Technology. At the University of Maine it has been necessary to increase the teaching force in all the departments of this College. The Department of Chemistry lost during the War practically all of its teaching force. Dr. Brautlecht, the new head of the department, has gathered together a splendid group of well trained and experienced chemists and has already succeeded in bringing the department back to its former high standing. The development of instruction in the chemistry of the paper and pulp industry is attracting wide and favorable attention. The University of Maine was a pioneer in this field of chemical work. Its importance to the State and to the Nation is so great that no effort should be spared to keep the work up to the very highest standard. All the departments in the College of Technology are flourishing. The Department of Civil Engineering is rendering great service to the State through its road materials testing laboratory. This work is done in conjunction with the State Highway Department.

College of Law

In the fall of 1918 the work of the College of Law was transferred from Bangor to the campus at Orono. This transfer was made in the interests of economy and because of the small

number of students in attendance. It was made as a temporary expedient. During the year plans were made for the reopening of the College in Bangor in September 1920. For various reasons these plans were not carried out and it was finally decided to close the College for the year 1920-21. It is the plan of the University to reopen the school in Bangor in September 1921.

Agricultural Experiment Station

The Agricultural Experiment Station is supported by the Federal Government, special appropriations by the State, and receipts from sales of products grown upon the experimental farms. Experimental work of great value to the State is being carried on at Highmoor Farm in Monmouth and at the Aroostook Farm in Presque Isle. Much of the laboratory and investigational work is carried on at the University. The members of the staff of the Experiment Station do not engage in teaching. Their work is wholly in the field of research and investigation. The value of the work already done is very great. It is a matter of gratification that the Maine Station stands among the first seven or eight stations in the United States. In actual accomplishments it is second to none. If the position of the Station is to be held, additional revenues must be secured.

Needs of the University

The very great increases in costs together with the rapid growth in attendance have made it impossible for the University of Maine to keep its physical plant in proper condition and to meet its other necessary obligations. It has not only been impossible to build new buildings but needed repairs upon present buildings have not been made. The needs may be summarized under the following general heads:

1. **Repairs.**—This will include the painting of the buildings, putting on new roofs in a number of cases and the construction of additional walks and roadways.

2. **Laboratories.**—The scientific work of the University depends to a very great extent upon laboratory equipment. It must be adequate and modern. Large expenditures are needed

to bring up to date laboratories in the College of Technology, in the Physical and Biological departments of the College of Arts and Sciences and in the laboratories of the College of Agriculture.

3. **Library.**—The rapid world development of the last six years has produced almost a new literature in many of the subjects of education. If our library is to serve the students as it should the amount of money annually expended for new books should be greatly increased.

4. **New Buildings.**—The increased student body makes necessary new buildings if proper housing facilities both for living and academic purposes are to be provided. The dormitory space for women is wholly inadequate. It is not possible to accommodate all the women who apply for admission. An additional dormitory for women is a necessity.

The horticultural building has been used much longer than its condition warrants. A new horticultural plant is necessary if work in this important subject is to be continued.

An additional dormitory for men is also needed. This building might be constructed in such a way as to make it possible for the University to accommodate those who attend Farmers' Week, the short winter course students, and various other organizations that desire to meet at the University.

In the interests of economy and good administration the University should have a central store-house. This would make it possible to buy in much larger quantities and also to take advantage of the market.

Physical education is assuming increased importance. The present gymnasium is entirely inadequate. A new and modern gymnasium that could be used not only for physical education but as an armory for the military department would meet a very great need.

Required attendance at Chapel has been abolished because the Chapel room is only large enough to accommodate about two-thirds of the student body. The need of a new Assembly Hall is very great.

The work of administration is now scattered over the campus in various buildings and is done in overcrowded rooms and without the facilities that make good administration easy and efficient. Either a separate administration building or ade-

quate administration offices provided for in a new Assembly Hall building is greatly needed.

In order to accommodate classes it is necessary to use for recitations, basement and attic rooms that were never intended for such purposes. Additional recitation room space is greatly needed.

The stack room and reading room space in the present library building are already inadequate. With a larger student body and increase in the number of books an addition to the Library becomes a necessity.

The present dairy building is not large enough to carry on with success the work of this department. Certain branches of instruction connected with dairying can only be taught in a very limited way. The building is old and unfit for modern conditions. It should be replaced by a building which is large enough and which has conveniences needed in modern dairy work.

The Department of Home Economics is growing very rapidly. Under present arrangements as referred to earlier in this report the Department is training the teachers for the Smith-Hughes schools. It is evident that the number of students in the department will continue to increase for a number of years. A new building devoted wholly to the needs of this department is greatly needed.

It is evident from the above statements that the building needs of the University are very great. A definite program extending over the next ten years ought to be worked out so that the work of the institution will not be hampered by lack of housing.

5. **For salaries.**—Considerable increase in salaries has been made. These must be maintained and additional increases made in the future. This will require additional funds.

Respectfully submitted,

Robert J. Aley, President.

Report of the Treasurer of the University

To the Trustees of the University of Maine:

I hereby transmit my report.

FOR THE FISCAL YEAR ENDED JUNE 30, 1920

ASSETS

Trust Fund Investments:

Coburn Trust Fund	Schedule A	\$100,000 00	
U. S. Land Scrip Fund	Schedule A	118,300 00	
Nehemiah Kittredge Loan Fund	Schedule B	1,732 31	
Kidder Scholarship Fund	Schedule B	750 00	
Maine Cannery Association			
Scholarship Fund	Schedule B	950 00	
Eugene Hale Scholarship Fund	Schedule B	500 00	
Joseph Rider Farrington			
Scholarship Fund	Schedule B	1,000 00	
Dr. E. G. Abbott			
Scholarship Fund	Schedule B	50 00	
American Institute Electrical			
Engineers Loan Fund	Schedule B	103 30	
Stanley Plummer Scholarship			
Fund	Schedule B	1,000 00	
Class of 1873 Prize Fund	Schedule B	1,000 00	\$225,385 61
			<hr/>
Land and Buildings			731,771 40
Inventories			356,380 01
Accounts Receivable	Schedule C		36,963 92
Notes Receivable	Schedule D		1,742 44
Cash on hand June 30, 1920			14,532 90
			<hr/>
			\$1,366,776 28

LIABILITIES

Trust Funds:

Coburn Trust Fund	\$100,000 00
U. S. Land Scrip Fund	118,300 00
Nehemiah Kittredge Loan Fund	1,732 31
Kidder Scholarship Fund	750 00
Maine Cannery Association	
Scholarship Fund	950 00
Eugene Hale Scholarship Fund	500 00

Joseph Rider Farrington		
Scholarship Fund	1,000 00	
Dr. E. G. Abbott		
Scholarship Fund	50 00	
Stanley Plummer Scholarship		
Fund	1,000 00	
American Institute Electrical		
Engineers Loan Fund	103 30	
Class of 1873 Prize Fund	1,000 00	\$225,385 61
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Notes Payable	Schedule E	145,000 00
Accounts Payable	Schedule F	122,275 09
Surplus		874,115 58
		<hr/>
		\$1,366,776 28

SCHEDULE A—ASSETS

Coburn Trust Fund Investments:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, maturing July 1, 1947 and bearing interest at 4% per annum, of the par value of \$100,000.00

United States Land Scrip Trust Fund Investment:

Under the provisions of an Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has received an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1919, due June 1, 1949, bearing interest at 5% per annum, of the par value of \$118,300.00

SCHEDULE B—ASSETS

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge, late of Bangor, Maine. It is under the control

of the President and Treasurer of the University, and from the same loans are made to needy students in the three upper classes. It is now invested as follows:

Twenty-three (23) promissory notes, signed by present and former students of the University, aggregating, exclusive of accrued interest	\$1,041.92
On deposit in Bangor Savings Bank—Book #45602	690.39
	<hr/>
	\$1,732.31

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, late of Denver, Colorado, Class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, amounting to \$750.00

This fund is now invested in Liberty Bonds—one of \$50.00, two of \$100.00 each and one of \$500.00. Said bonds are deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Maine Cannery Association Scholarship Fund Investment:

A gift from Maine Cannery Association, of Portland, Maine, providing for scholarships of \$25.00 each \$950.00

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2285.

Eugene Hale Scholarship Fund Investment:

The gift of Mrs. Eugene Hale, of Ellsworth, Maine, providing for scholarships of \$25.00 each \$500.00

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2284.

Joseph Rider Farrington Scholarship Fund Investment:

The gift of Arthur M., Edward H., Oliver C., Horace P. and Wallace R. Farrington, all graduates

of the University of Maine and sons of the late Mr. and Mrs. Joseph Rider Farrington. Mr. Farrington was Farm Superintendent and Instructor in Agriculture in 1871-1878 and Professor of Agriculture in 1878-1879. The gift, which is made as a memorial to their parents, provides for a scholarship, under conditions named by donors, and amounts to \$1,000.00

This gift comes to the University invested in a Pacific Mills First Mortgage Gold Bond, due in 1934, bearing interest at 6%. This Bond is deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Dr. E. G. Abbott Scholarship Fund Investment:

The gift of Dr. E. G. Abbott of Portland, Maine, providing for scholarship amounting to \$50.00

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2343.

American Institute of Electrical Engineers Loan Fund Investment:

The gift of the U. of M. Section of the A.I.E.E. for the benefit of the three upper classes taking the electrical course, amounting to \$103.30

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2646.

Stanley Plummer Scholarship Fund Investment:

The gift of the late Colonel Stanley Plummer of Dexter, Maine, providing for scholarships \$1,000.00

This fund is invested in a State of Maine War Loan Bond, due in 1937, bearing interest at 4%. This bond was purchased at a cost of \$967.65 and is deposited in Box 33 of the Orono Branch of the Old Town Trust Company. A balance of \$32.35 is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2770.

Class of 1873 Prize Fund Investment:

The gift of Russell W. Eaton, a graduate of the University of Maine in the class of 1873, providing for scholarships

\$1,000.00

This fund is invested in a Liberty Loan Bond bearing interest at $4\frac{3}{4}\%$. This bond is deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

SCHEDULE C—ASSETS**Accounts Receivable:**

Representing funds due the University as follows:

Students' Accounts (Regular \$ 932.16)	
(Summer 1863.32)	\$ 2,795.48
Maine Agricultural Experiment Station	23,339.03
DuPont Scholarship (Allowed Student, fund not received)	350.00
Smith-Lever Sales Account	296.41
Experiment Station Sales Account	2,130.43
Companies and Individuals	6,379.13
Late Receipts	1,613.08
Stanley Plummer Scholarship	40.00
Class of 1873 Prize	20.36
	<hr/>
	\$36,963.92

SCHEDULE D—ASSETS**Bills Receivable:**

Represents fifty-seven (57) promissory notes, signed by present and former students given the University in settlement of tuition fees, term bills, etc., aggregating

\$1,742.44

SCHEDULE E—LIABILITIES

Bills Payable:

Note No. 36	Merrill Trust Co., Bangor, Me.	Demand	\$15,000.00
37	Merrill Trust Co., Bangor, Me.	Demand	15,000.00
38	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
39	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
40	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
41	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
42	Merrill Trust Co., Bangor, Me.	Demand	5,000.00
43	Merrill Trust Co., Bangor, Me.	Demand	5,000.00
44	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
45	Merrill Trust Co., Bangor, Me.	Demand	10,000.00
46	Merrill Trust Co., Bangor, Me.	Demand	5,000.00
47	Merrill Trust Co., Bangor, Me.	Demand	5,000.00
48	Merrill Trust Co., Bangor, Me.	Demand	15,000.00
49	Merrill Trust Co., Bangor, Me.	Demand	20,000.00
			<hr/>
			\$145,000.00

SCHEDULE F—LIABILITIES

Accounts Payable:

Audited Vouchers	\$92,643.36
Levi M. Stewart Fund Loan	20,000.00
U. S. Uniform Account	1,036.00
Key Deposit Account	490.00
Kidder Scholarship	30.00
Government Property Replacement Fund	405.86
Stock Replacement Fund	528.19
Coburn Trust Fund Income Appli- cable to Year ending June 30, 1921	2,000.00
Summer School Income Applicable to Year ending June 30, 1921	5,141.68
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\$122,275.09	

STATEMENT SHOWING INCOME FROM
ALL SOURCES**Income from Students:**

Registration Fees	11,134.72	
Tuition Fees, General	36,398.77	
Tuition fees, College of Law	1,238.00	
Incidental fees	32,797.66	
Special fees for late registration diplomas, etc	985.20	
From Dormitories	87,827.04	\$170,381.39

Income from Investments:

Endowments for General Purposes (Coburn)	4,000.00	
Rents	1,809.28	\$ 5,809.28

Incomes from Grants by State and Nation:

State:

Appropriation for Maintenance	170,000.00
Appropriation for Co-operative Agri- culture	19,015.88
Appropriation for Supplementary Extension	10,970.70
Revenue from U. S. Gov't. by State Sup't. Public Schools	5,569.88

Federal Aid:

Income from Land Grant—Act of July 2, 1862	5,915.00
Additional Endowments—Acts of Aug. 30, 1890 and March 4, 1907	50,000.00
Co-operative Agriculture (Smith-Lever Fund) Act of May 8, 1914	29,015.88
Act of 1919 providing for the pay- ment of Additional Sums for Co-op- erative Agriculture	10,970.70

\$301,458.04

Income from Departments:

Civil Engineering	3.13
Mathematical Science	73.57
Latin	27.85
English	306.16
Economics and Sociology	66.25
Philosophy	74.75
Biology	362.69
Chemistry	1,083.75
Pharmacy	395.85
Spanish	100.25
Law	800.00
French	139.50

\$ 3,433.75

Income from Other Sources:

College General, Laboratory Fees	10,577.26	
College of Agriculture, Laboratory Fees	1,629.48	
College of Agriculture, Sundry		
Sales, Agronomy	13,539.71	
College of Agriculture, Sundry		
Sales, Animal Industry	16,148.65	
College of Agriculture, Horticulture	934.84	
College of Agriculture, Cows	1,300.00	
College of Agriculture, Poultry	299.85	
College of Agriculture, Other Live		
Stock	247.00	
College of Agriculture, Equipment	1,853.91	
University Inn	12,993.23	
Library Inventory	1,732.39	
Library Fees	95.28	
University Press	19,024.12	
Interest on Trust Funds	121.08	
Profit and Loss revenue from		
previous year	93.16	80,589.96
Total Income		561,672.42
Deficit		11,189.92
		<hr/>
		\$572,862.34

STATEMENT SHOWING TOTAL EXPENDITURES

Salaries:

Salaries of Officers	\$ 10,058.30	
Salaries of Instructors	164,255.17	\$174,313.47

Administration Expenses:

Advertising	570.76	
Clerk Hire	8,991.38	
Commencement	176.12	
Freight and Express	991.08	
Office Supplies and Postage	2,082.78	
Printing and Binding	11,725.33	
Telephone and Telegraph	1,041.34	
Traveling Expenses	1,566.68	
Interest and Discount	6,729.57	
Miscellaneous	810.06	34,685.10

Maintenance of Property:

Repairs to Buildings	11,711.38	
Care of Buildings	13,421.36	
Furniture and Fixtures	2,297.76	
Insurance	3,297.05	
Grounds	3,646.69	34,374.24

Power, Heat, Light and Water:

Labor	12,981.77	
Supplies	11,451.71	
Electricity	2,534.26	
Coal	48,805.40	
Freight and Express	1,629.55	
Water	1,589.09	78,991.78

House Charges:

University Inn	14,187.49
Mt. Vernon House	8,637.49

Mt. Vernon Annex	1,057.46	
Balentine Hall	21,929.42	
Commons	47,874.77	
Oak Hall	991.88	
Hannibal Hamlin Hall	510.45	
Farm Boarding House	6,355.88	
Laundry	825.73	
Hospital	645.35	103,015.92

Department Expenses:

Electrical Engineering	\$ 548.66
Law	1,415.08
Law Library	902.79
Mechanical Engineering	1,134.11
Mechanics and Drawing	913.31
Military Science	1,188.35
Museum	45.00
Physical Training	1,150.49
History	2.45
Greek	62.30
Physics	1,108.83
Technology	939.59
Music	16.72
German	5.25
Education	30.30
University Press	12,080.99

College of Agriculture:

Pay of Employees	22,242.57
Land Rental	365.00
Horses	110.00
Feed	16,244.99
Fertilizers, seed, etc.	677.74
Sundry Supplies & Miscellaneous	5,030.44
Vocational Agricultural Education	1,629.55
Traveling Expenses	1,343.38
Postage, Printing and Stationery	391.22
Freight and Express	1,246.53
Forestry	9.40

Farmers' Week	534.55	
Telegraph and Telephone	41.21	
Ice	20.95	
Extension Work (Smith-Lever Funds)	69,973.16	\$141,404.91

Sundry Accounts:

Prizes:	15.00	
Profit and Loss:		
Experiment Station deficit of 1913 written off	4,076.55	
Old Power House torn down—cost less salvage written out of accounts	650.00	
U. S. Government, Students' Army Training Corps Naval Account	736.13	
Miscellaneous charges, mostly expenses applicable to previous year	599.24	\$ 6,076.92
Total Expenditures		\$572,862.34

MAINE AGRICULTURAL EXPERIMENT STATION**Assets and Liabilities****Assets**

State of Maine	Detail #1	\$ 4,288.35	
Accounts Receivable	Detail #2	6,883.81	
Inventories	Detail #3	71,878.92	
Plant	Detail #4	79,441.56	
Aroostook Farm Barn Roof Replacement		1,695.10	\$164,187.74

Liabilities

University of Maine	Detail #5	23,339.03	
Accounts Payable	Detail #6	2,819.79	
Surplus		138,028.92	164,187.74

Detail No. 1—State of Maine

Appro. for Animal Husbandry	1,032.57	
Appro. for Scientific Investigation		
Aroostook Farm	1,788.84	
Appro. for Highmoor Farm	1,466.94	4,288.35
	<hr/>	

Detail No. 2—Accounts Receivable

Dept. Agriculture, Analysis Acct.	5,777.25	
Aroostook Farm	997.94	
Insurance Due on Highmoor Loss	108.62	6,883.81
	<hr/>	

Detail No. 3—Inventory

Aroostook Farm	6,493.36	
Highmoor Farm	11,862.81	
Poultry Plant, Orono	3,131.98	
Biological Laboratory, Orono	4,421.16	
Chemical Laboratory, Orono	12,029.16	
Entomological Laboratory, Orono	6,618.93	
Office and Library, Orono	21,268.12	
Plant Pathology, Orono	2,958.39	
Seed and Photographic Laboratory, Orono	3,095.01	71,878.92
	<hr/>	

Detail No. 4—Plant

Aroostook Farm, Presque Isle	25,000.00	
Highmoor Farm, Monmouth	12,500.00	
Incubator and Employees House, Orono	1,800.00	
Poultry Houses, Orono	3,350.00	
Holmes Hall	23,500.00	
Highmoor Farm—New Construction	13,291.56	79,441.56
	<hr/>	

Detail No. 5—University of Maine

Amount due the University, represents bills paid by the University for which it has not yet been reimbursed		\$23,339.03
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Detail No. 6—Accounts Payable

Aroostook Farm—Potato Pathology	\$ 19.38	
Horticulture	612.26	
Soil Fertility Investigations	53.40	
General Income and Expense Account	1,859.99	
Inspection Analysis	166.14	
Highmoor Fire Loss Account	108.62	2,819.79
<hr/>		
Surplus and How Employed:		
Assets Increased:		
Inventory	5,159.29	
Plant	13,291.56	18,450.85
<hr/>		
Liabilities Increased:		
University of Maine	4,180.56	
Accounts Payable	2,311.67	
<hr/>		
	6,492.23	
Assets Decreased:		
State of Maine	711.65	
Accounts Receivable including Aroostook Farm Barn Roof Replacement	2,011.13	
<hr/>		
	2,722.78	
Surplus Increased	9,235.84	\$ 18,450.85
<hr/>		

ANNUAL REPORT

27

	Animal Husbandry	Inspection Analysis	Aroostook Farm	Highmoor Farm	General Account	Totals		Government	
						State	Gov't	Hatch	Adam
Expense: Administration—Salaries Scientific Staff and Assistants Special Assistants Pay Roll Employees Equipment, Machinery & Tools (additions) Equipment, Machinery & Tools (repairs and renewals) Furniture & Fixtures (additions) (repairs and renewals) Scientific Apparatus Live Stock Buildings and Grounds (repairs) Insurance Food Fertilizers Heat, Light, Water and Power Bulletins and Publications Stationery and Postage Telephone and Telegraph Books and Periodicals Traveling Expenses Rent & Laundry (so-called Contingent) Seeds, Plants and other Supplies Chemical Supplies and Samples Unclassified (Freight, Exp. etc.) Potato Pathology Expense Horticulture Expense Soil Fertility Expense Inspection Analysis Expense General Expense Increase in Plant: Highmoor Farm New Construction Increases in Surplus: Inventory Deficit of 1913 on Analysis of Food transferred from Surplus debit to debit of University Profit and Loss Account	4498.20	11026.43	1220.00 4915.23 396.14 18.30 90.00 214.71 1220.11 875.15 258.63 71.05 16.44 66.50 1063.65 36.20 171.71 2293.69 111.52 76.91 211.29 13291.56 5159.29 4076.55	1080.00 2197.70 408.50 52.00 158.67 180.58 43.50 381.48 73.95 10.12 25.85 357.83 29.82 13291.56	1676.35 1888.06 2186.07 25.25 2300.00 724.88 201.15 78.83 186.94 174.56 1761.96 216.05 211.29	19500.90 9000.99 2990.71 96.88 209.85 2442.00 399.52 2125.57 918.65 1431.28 776.27 600.37 528.69 3243.66 506.89 432.14 171.71 2293.69 111.52 76.91 211.29 13291.56	4991.81 13076.40 3075.42 88.22 37.65 326.57 73.15 192.34 3541.08 830.89 887.47 195.04 532.44 137.77 176.92 615.43 929.31 27.70 264.39 13291.56	4976.18 3092.07 1042.75 88.22 37.65 204.82 46.19 128.86 1912.09 830.89 598.29 105.04 471.19 137.77 40.27 339.62 705.87 4.12 148.11	15.63 9684.33 2032.67 <

Respectfully submitted,

33
20/21

The Maine Bulletin

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University of Maine Orono, Maine, October, 1921

No. 4

ANNUAL REPORT

OF THE

University of Maine

For the Year Ended June 30, 1921



PRINTED AT THE
UNIVERSITY PRESS
ORONO, MAINE

Letter of Transmissal from the President of the Board of
Trustees

To the Honorable Governor and Council of the State of Maine:

I have the honor on behalf of the Board of Trustees of the University of Maine to transmit to you the annual report of the University for the year ended June 30, 1921.

Respectfully submitted,

FREDERICK H. STRICKLAND,
President of the Board of Trustees

Report of the President of the University.

To the Board of Trustees of the University of Maine:

I herewith present to you my eleventh annual report. In it I sketch somewhat briefly conditions, activities, and results of the past year.

The Educational Situation

In my report of one year ago I called attention to the increased demand for education and for educated men and women. I also pointed out at that time the difficulties that educational institutions were facing in meeting these demands. During the past year but few changes in conditions have arisen. There has been a marked increase in the attendance of students at the various higher institutions of learning and an enormous increase in secondary school attendance. There is no indication at present that the demand for educational facilities will soon decrease. The need of increased financial support to meet present demands is very urgent.

The past year at the University of Maine has been one of satisfactory growth and accomplishment. The restlessness and lack of direct motive which were so noticeable during the war and in the years immediately following have largely disappeared. Many things indicate the return of the student body to normal conditions. The work done in class room and laboratory was of good grade. There was a general tendency on the part of all instructors to raise the standards. The willingness of the student body to cooperate in the improvement of conditions was very satisfactory. The work of the year as a whole is prophetic of larger and better things for the future.

Attendance

The attendance of students for the past year exceeded that of any previous year. The total enrollment was 1466. Of these 1080 were men and 386 women. There were 1287 students from

the State of Maine and 179 students from other states and foreign countries. Every county in Maine was represented by a large delegation. There were 1206 students who were candidates for degrees. They were distributed as follows:

Graduate Students.....	25
College of Agriculture.....	272
College of Arts and Sciences.....	625
College of Technology.....	544

The Department of Education maintained classes for teachers in Orono, Old Town, Bangor, Brewer, and Bar Harbor. The work was of regular college grade and was taken by 111 teachers. It is the intention to continue this educational service and to expand it as rapidly as the finances of the institution will permit.

Degrees

At the annual Commencement held Monday, June 6, 1921 degrees were conferred as follows:

Bachelor of Science in Agriculture.....	27
Bachelor of Arts.....	75
Bachelor of Pedagogy.....	5
Bachelor of Law.....	1
Bachelor of Science, Engineering.....	79
Master of Arts.....	6
Master of Science.....	6
Chemical Engineer.....	3
Civil Engineer.....	1
Electrical Engineer.....	2
Total.....	205

In addition to the above the Honorary Degree of Doctor of Laws was conferred upon each of the following persons:

Justice Albert M. Spear, Supreme Court, Augusta.
 Pres. Warren J. Moulton, Theological Seminary, Bangor.
 Pres. A. J. Roberts, Colby College, Waterville.
 Brig. Gen. Mark L. Hersey, U. S. Army, Camp Devens.
 E. J. Haskell, Silk Manufacturer, Westbrook.
 George H. Hamlin, Business Man, Orono.

Board of Trustees

During the past fiscal year the Board of Trustees has suffered the loss of two well known members; Hon. Samuel W. Gould by the expiration of his term, and Charles E. Oak by death. Mr. Gould served on the Board during two full terms of seven years each. He was President of the Board for many years. His interest in the institution was known to all and his wise judgment was of great value. Mr. Oak represented the alumni on the Board. His interest in the institution has been active and valuable for many years. His unexpected removal by death took from the Board a valuable and influential member.

Mr. E. B. Draper of Bangor was appointed by the Governor as successor to Mr. Gould. Hosea B. Buck of Bangor, having been nominated by the alumni association, was duly appointed by the Governor as the successor of Mr. Oak.

At the present time the Board of Trustees consists of Frederick H. Strickland, Chairman, Bangor; Thomas E. Houghton, Clerk, Fort Fairfield; W. H. Looney, Portland; Charles S. Bickford, Belfast; Ora Gilpatrick, Houlton; Frank E. Guernsey, Dover; E. B. Draper, Bangor; Hosea B. Buck, Bangor.

The standing committees of the Board are as follows:

Executive Committee: Strickland, Draper, and Buck.

Farm Committee: Houghton, Guernsey, and Gilpatrick.

Honorary Degrees: Bickford, Buck, and Looney.

Campus Planning Committee: Bickford, and Buck.

Conference Committee: Bickford, Buck, and Houghton.

Board's Representative on Athletic Committee: Buck.

Faculty

But few changes have occurred in the faculty. All changes have been due to better appointment elsewhere. The following resignations were presented and accepted: James Baldwin, Professor of Physical Education and Director of Athletics; Dorothea Beach, Assistant Professor of Home Economics; Juliet S. Poyntz, Assistant Professor of Economics and Sociology. Some changes were made in the staff of instructors. This happens every year because instructors are appointed for only one year. They may be reappointed two times.

The work of the faculty during the past year has been very satisfactory. There has been entire willingness to meet the unusual conditions and a spirit of most helpful cooperation. The faculty at present in point of education, experience, and personal qualities is unusually strong. There is reason to believe that under the present conditions of salary the teaching force will be more permanent in the future than it has ever been in the past. This will insure better work, higher standing, and a more continuous policy of instructors.

Tuition

The tuition charge in a State University should be very small. Some State Universities make no charge at all, while many make only a small registration or incidental charge. The University of Maine, with insufficient means available to carry on its work, has found it necessary at various times in the past to increase the tuition charge. By action of the Board of Trustees the annual tuition for the year beginning July 1, 1921 will be, for residents of the State of Maine \$125.00, and for residents of other states and foreign countries \$195.00. The extra charge for out of State students is in compliance with legislative enactment. As some offset to the increased tuition charge students will no longer pay laboratory fees. The only University charge in addition to tuition will be for breakage in laboratories or for fines for keeping library books over time.

Appropriations

The needs of the University of Maine were presented to the Budget Committee and to the Legislature. The indebtedness of the institution, details of which are shown in the Treasurer's report, was also presented and a request made for its payment. The amount of money needed for the proper conduct of the institution was not secured. The appropriations made were as follows: For general maintenance January 1, to June 30, 1921, regular appropriation, \$125,000; emergency, \$30,000; for the year July 1, 1921 to June 30, 1922, \$195,000; for the year July 1, 1922 to June 30, 1923, \$225,000.

Appropriations to apply on indebtedness were made as follows: for the fiscal year beginning July 1, 1921, \$22,500.00; for

the fiscal year beginning July 1, 1922, \$22,500.00. No appropriations were made for buildings, although there is most urgent need for several buildings.

At the annual meeting of the Board of Trustees in June, 1921, plans were adopted and a complete budget system put into operation. It was decided that the expenses of the institution should be kept absolutely within the funds available. In order to do this it was necessary to dispense with the service of a number of instructors, to reduce the appropriations for laboratory apparatus and material to a minimum and to eliminate all repairs to buildings except those that are absolutely indispensable. It was also necessary to refuse to inaugurate any new work or to reopen departments that have been closed in recent years.

Athletics

For many years representatives of the alumni and student body have urged the Trustees to take charge of the collection of money for athletic purposes. At the annual meeting in June 1920 the Board of Trustees voted to set apart for athletic purposes \$9.00 per year from the tuition paid by each student. This money was to be used for the general support of University athletics. Each student was to receive admission tickets to all athletic performances that his blanket tax receipt had admitted him to previously. Under this arrangement the University authorities became directly responsible for all athletic matters. The work of the year was fairly successful but not wholly satisfactory.

At the annual meeting in June 1921, a committee representing the alumni of the University came before the Board of Trustees and after considerable discussion the following plan to become effective July 1, 1921 was agreed upon:

1. That the Athletic Board now consisting of three alumni, three faculty, not including the Athletic Director and four student members be permitted to continue as it did previous to July 1, 1920 the active management of all student athletic enterprises under the present athletic association constitution.
2. That the Board of Trustees be represented upon the Athletic Board.
3. That \$4.50 per semester from each student be paid to the Treasurer of the Athletic Board for the use of the Athletic Association.

The expenditures of the Athletic Association are to be evidenced by proper vouchers filed with the University.

4. That the University shall pay the salaries of the Athletic Director and the Track Coach. All other expenditures of whatever nature relating to athletics shall be paid by the Athletic Association.
5. That the appointment of all coaches and directors and their retention in service shall be agreeable both to the Athletic Board and the University.
6. That all athletic activities shall be directed by the Athletic Board subject to the supervision of the University.

Library

A good working library is a most valuable asset to a modern university. The University of Maine library is growing at a fair rate and its usefulness to faculty and students is improving each year. At present the library contains 70,558 bound volumes and 22,228 pamphlets. Almost 3000 bound volumes and more than 1000 pamphlets were added during the year. Books loaned for use outside the library totalled 9,027, an increase of twelve and one-half percent over the preceding year. The number of students consulting the library for references bearing upon their class work has been greater than ever before.

There are three urgent library needs:

1. A larger annual appropriation for books.
2. Increased floor space for reading and reference work.
3. Additional space for books.

The work of the Extension Department has developed until it now reaches practically every part of the State. The money for this work is appropriated by the Federal Government, the State Government, the Federal Department of Agriculture, and the County Farm Bureaus. The Extension Specialists in Home Economics, Poultry Husbandry, Dairying, Farm Management, Sheep Husbandry, and Boys' and Girls' Club Work, carry information and demonstration from the University to the various parts of the State. County Agents are doing work under the direction of the Farm Bureau organizations in all the counties of the State. Home Demonstration Agents under the direction of a State Leader are doing splendid work in many of the counties of the State. It is hoped that this work may be extended into all the counties at an early date.

The Extension service attempts to meet the direct and immediate needs of the people. Much of the success of the work is due to the splendid cooperation of the Farm Bureau organizations. They plan the work needed in their communities and nominate the agent who is to direct it.

Experiment Station

On December 1, 1920, James M. Bartlett became acting director of the Experiment Station, as the successor of Dr. Charles D. Woods. As Professor Bartlett did not care to give up his work as Chemist, to become permanent director, he was succeeded on April 15, 1921 by Dr. W. J. Merse, who had been unanimously elected as Director at a meeting of the Board of Trustees on April 9th.

Early in the year the removal of the experimental herd to Highmoor was completed. It is hoped that the segregation of the animals at this experimental farm may result in a better understanding by the people of the state of the purpose of the experiment. The Legislature of 1921 continued the appropriation of \$5,000 a year for the support of this work.

The Station made excellent progress in the various lines of work which have been undertaken. Particular emphasis is placed upon the study of plant diseases, upon economic entomology, and upon plant breeding. All the problems under investigation are of direct and immediate interest to the farmers of Maine.

College of Law

The College of Law did not open during the year. This was due to lack of means to maintain it. The University requested the Legislature of 1921 to make specific appropriation for the reopening of the College. This request was not granted. The Board of Trustees have decided that the College will not be reopened for the year 1921-22.

A considerable part of the Law Library will be stored in the Court House in Bangor under the direct care of the Supreme Justices and the Penobscot County Bar Association. The remainder of the books will be taken care of in the Library building at Orono.

Needs

The needs of the University may be appropriately considered under four heads: Maintenance, Repairs, Equipment, and Buildings.

For a number of years the lack of sufficient means has made it necessary to curtail work in various departments and in some cases to wholly discontinue work. Considerably more money than is now available is needed to maintain the institution with its present attendance and on the present basis. No institution fully meets the demands of the people unless it is improving its work and expanding its field of operation. Constant demands are made upon the University of Maine to do work in subjects not now offered. Some of these demands are so insistent that they ought to be met at an early date. I mention but three of the most urgent ones: Development of courses in Rural Economics.

For the past six years but little repair work has been done. Practically all the buildings of the University plant are in need of paint and varnish. Many of them need repairs on roofs and foundations. The iron piping that conducts the steam from the central heating plant to the buildings is rapidly giving away. Much of it should be replaced at once.

The laboratory equipment in all the scientific departments has not kept pace with modern developments. Large expenditures should be made in the laboratories of Mechanical, Electrical, Chemical, and Civil Engineering, in Physics and Biology, and in the various departments of the agricultural sciences. The Library is coming to be the general laboratory for all students. Money should be available to keep it supplied with modern books as well as to stock it with the standard books of the past.

The University is forced to turn away many girls who apply for admission because of lack of facilities for housing them. There is most urgent need for an additional dormitory for women. The housing of men, while not so acute, is a serious problem. An additional dormitory for men would be an asset of great value. There is urgent need for an administration building, recitation building, green houses, and a dairy building. The present Assembly room accommodates slightly over one-half of the student body. It is not possible to have a meeting;

of the entire student body in any of the University buildings. Compulsory chapel has been suspended because of the lack of an assembly room of adequate size. A modern assembly room suitable for all sorts of student gatherings, for dramatics, for concerts, and for chapel services is greatly needed.

Respectfully submitted,

Robert J. Aley, President.

Report of the Treasurer of the University

To the Trustees of the University of Maine:

I hereby transmit my report.

FOR THE FISCAL YEAR ENDED JUNE 30, 1921

ASSETS AND LIABILITIES

Assets:

Cash	Schedule No. 1	\$ 17,271.48
Accounts Receivable	" " 2	53,418.89
Notes Receivable	" " 3	1,643.53
Trust Funds Invested	" " 4	225,945.13
Inventories	" " 5	361,674.83
Plant	" " 6	732,132.96
		<hr/>
		\$1,392,086.82

Liabilities:

Accounts Payable	Schedule No. 7	\$173,519.98
Notes Payable	" " 8	145,000.00
Trust Funds	" " 4	225,945.13
Surplus	" " 9	847,621.71
		<hr/>
		\$1,392,086.82

SCHEDULE NO. 1—CASH

Cash in office		\$4,361.41
Checking account Merrill Trust Co.		7,352.39
" " Old Town Trust Co.		4,521.68
" " " " " "		
Uniform Account		1,036.00
		<hr/>
		\$17,271.48

SCHEDULE NO. 2—ACCOUNTS RECEIVABLE

Students Accounts, regular	\$1,041.75
Companies and Individuals	7,050.85

Experiment Station	39,750.77	
Experiment Station Sales Account	602.70	
Smith-Lever Sales Account	3.46	
Late Receipts	4,769.00	
Class of 1873 Scholarship	20.36	
Stanley Plummer Scholarship	40.00	
Track Club Scholarship	50.00	
Western Alumni Scholarship	60.00	
Pittsburgh Alumni Scholarship	30.00	\$53,418.89

SCHEDULE NO. 3—NOTES RECEIVABLE

Forty-seven promissory notes, signed by present and former students given the University in settlement of tuition fees, term bills, etc., aggregating \$1,643.53

SCHEDULE NO. 4—TRUST FUNDS INVESTED AND TRUST FUNDS

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner C. Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, maturing July 1, 1947, and bearing interest at 4% per annum, of the par value of \$100,000.00

United States Land Scrip Trust Fund Investment:

Under the provisions of an Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has received an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1919, due June 1, 1949, bearing interest at 5% per annum, of the par value of \$118,300.00

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge, late of Bangor, Maine. It is under the control

of the President and Treasurer of the University, and from the same loans are made to needy students in the three upper classes. It is now invested as follows:

Thirty-four promissory notes, signed by present and former students of the University, aggregating, exclusive of accrued interest,	\$1,571.92
On deposit in Bangor Savings Bank—Book No. 45602	202.38
	<hr/>
	\$1,774.30

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, late of Denver, Colorado, Class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, amounting to \$750.00

This fund is now invested in Liberty Bonds—one of \$50.00, two of \$100.00 each and one of \$500.00. Said bonds are deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Maine Cannery Association Scholarship Fund Investment:

A gift from Maine Cannery Association, of Portland, Maine, providing for scholarships of \$25.00 each \$1,206.28

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2285.

Eugene Hale Scholarship Fund Investment:

The gift of Mrs. Eugene Hale, of Ellsworth, Maine, providing for scholarships of \$25.00 each \$552.97

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2284.

Joseph Rider Farrington Scholarship Fund Investment:

The gift of Arthur M., Edward H., Oliver C., Horace P. and Wallace R. Farrington, all graduates

of the University of Maine and sons of the late Mr. and Mrs. Joseph Rider Farrington. Mr. Farrington was Farm Superintendent and Instructor in Agriculture in 1871-1878 and Professor of Agriculture in 1878-1879. The gift, which is made as a memorial to their parents, provides for a scholarship under conditions named by donors, and amounts to \$1,000.00

This gift comes to the University invested in a Pacific Mills First Mortgage Gold Bond, due in 1934, bearing interest at 6%. This Bond is deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Dr. E. G. Abbott Scholarship Fund Investment:

The gift of Dr. E. G. Abbott of Portland, Maine, providing for scholarships, amounting to \$55.80

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2343.

American Institute of Electrical Engineers Loan Fund Investment:

The gift of the U. of M. section of the A.I.E.E. for the benefit of the three upper classes taking the electrical course, amounting to \$107.48

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2646.

Stanley Plummer Scholarship Fund Investment:

The gift of the late Colonel Stanley Plummer of Dexter, Maine, providing for scholarships \$1,034.49

This fund is invested in a \$1000.00 State of Maine War Loan Bond, due in 1937, bearing interest at 4%. This bond was purchased at a cost of \$967.65 and is deposited in Box 33 of the Orono Branch of the Old Town Trust Company. A balance of \$34.49 is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2770.

Class of 1873 Prize Fund Investment:

The gift of Russell W. Eaton, a graduate of the University of Maine in the Class of 1873, providing for scholarships

\$1,000.00

This fund is invested in a Liberty Bond bearing interest at $4\frac{3}{4}\%$. This bond is deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Student Union Fund Investment:

This fund is deposited in the Savings Department of the Old Town Trust Company, as per Book #2307

\$163.81

SCHEDULE NO. 5—INVENTORIES**Equipment:**

Machinery and Tools for Roads and Grounds	\$ 64.06
Shop Machinery and Tools	1,001.61
Horses, Harness, etc.	2,412.95
Farm Machinery and Tools	4,628.50
Dairy Equipment	\$ 3,195.72
Poultry House Equipment	904.03
Cows	10,580.00
Poultry	1,904.10
Other Live Stock	991.50
Laboratory and Class Room Equipment:	
College of Agriculture	21,190.99
Laboratory and Class Room Equipment:	
College of Arts and Sciences	36,710.33
Laboratory and Class Room Equipment:	
College of Technology	74,096.58
Laboratory and Class Room Equipment:	
College of Law	13,550.01
Library, Books and Equipment	83,266.95
Military Science, Equipment	362.19
Physical Training, Equipment	881.28

Locker, Equipment	630.00	
University Press, Equipment	7,421.96	
Diplomas, Equipment	43.24	
Chapel Furniture and Fixtures	1,139.85	
Dormitory and Hotel Equipment	18,022.92	
Office Furniture and Fixtures	15,744.20	
Automobiles and Trucks	2,660.00	\$301,402.97

Supplies:

Administration:		
Advertising	\$	84.37
Stationery and Supplies		789.05
Maintenance of Plant and Equipment:		
Care of Buildings—Material		132.70
Material and Supplies		3,941.42
Power, Heat, Light and Water:		
Fuel		34,766.40
Supplies		496.44
College of Agriculture—Business		
Agronomy:		
Miscellaneous Supplies & Expenses		204.65
Feed		427.79
Fertilizers and Seeds		52.60
Animal Industry:		
Miscellaneous Supplies & Expenses		141.80
Feed		2,641.83
College of Agriculture—Education		
Agronomy:		
Miscellaneous Supplies & Expenses		126.52
Animal Industry:		
Miscellaneous Supplies & Expenses		383.94
Horticulture:		
Office Supplies & Expenses		15.80
Miscellaneous Supplies and Expenses		1,161.98
Bacteriology & Veterinary Science:		
Miscellaneous Supplies & Expenses		275.98
Bio-Chemistry:		
Miscellaneous Supplies & Expenses		266.04

Home Economics:	
Office Supplies & Expenses	5.00
Miscellaneous Supplies & Expenses	44.35
College Extension:	
Miscellaneous Supplies & Expenses	2,636.61
College General:	
Miscellaneous Supplies & Expenses	79.22
Forestry:	
Office Supplies and Expenses	15.00
College of Arts and Sciences	
Physics:	
Expenses	61.00
English:	
Expenses	10.00
Latin:	
Expenses	18.68
Biology:	
Expenses	25.40
College of Technology	
Technology:	
Expenses	146.20
Chemistry:	
Expenses	2,334.23
Civil Engineering:	
Expenses	74.33
Electrical Engineering:	
Expenses	1,629.68
Mechanical Engineering:	
Expenses	1,141.05
Automobiles and Trucks: Supplies	125.30
University Inn: Heat, Light & Water	642.39
University Inn: Food Supplies	278.12
Mt. Vernon House: Food Supplies	169.66
Balentine Hall: Food Supplies	137.26
Commons: Food Supplies	2,297.39
Farm Boarding House: Food Supplies	114.89
Farm Boarding House: Heat, Light and Water	120.00
Library: Stationery and Supplies	60.40
University Press: Stock Supplies	2,182.39

Physical Training—Expenses	14.00	\$60,271.86
Total Inventories		<u>\$361,674.83</u>

SCHEDULE NO. 6—PLANT

Campus and Farm Lands	\$14,005.52	
Office and Instruction Buildings	327,286.31	
Faculty Houses	32,502.12	
Dormitories	163,487.32	
Carnegie Library Building	50,985.06	
Power Plant Buildings	66,525.30	
Dairy Buildings	3,351.10	
Barns and Storage Sheds	41,055.31	
Horse Barns	6,000.00	
Poultry Houses and Fences	5,696.01	
Ice Houses	525.00	
Farm Buildings Unclassified	4,504.92	
Horticultural Buildings	2,500.00	
Repair Shops	3,900.57	
Printing Office	1,481.45	
Miscellaneous Structures	3,626.97	
Kappa Sigma House Equity	4,700.00	\$732,132.96

SCHEDULE NO. 7—ACCOUNTS PAYABLE

Audited Vouchers	\$143,540.88
L. M. Stewart Fund Loan	20,000.00
U. S. Uniform Account	1,036.00
U. S. Government Replacement Account	150.50
Military Deposit	200.00
Key Deposit	56.00
Kidder Scholarship (not yet awarded)	30.00
New York Alumni Association Scholarship (not yet awarded)	50.00
Military Hop Fund	51.00
Summer School Income Applicable to year	

ending June 30, 1922	\$7,076.25
Less expenses	670.65

6,405.60

Reserve for Bad Accounts	2,000.00	\$173,519.98
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SCHEDULE NO. 8—NOTES PAYABLE

April 22, 1916	Merrill Trust Co., Bangor, Me. Demand	\$15,000.00
June 15, 1916	Merrill Trust Co., Bangor, Me. Demand	15,000.00
May 19, 1917	Merrill Trust Co., Bangor, Me. Demand	10,000.00
June 15, 1917	Merrill Trust Co., Bangor, Me. Demand	10,000.00
June 15, 1917	Merrill Trust Co., Bangor, Me. Demand	10,000.00
Sept. 15, 1917	Merrill Trust Co., Bangor, Me. Demand	10,000.00
May 20, 1918	Merrill Trust Co., Bangor, Me. Demand	5,000.00
May 21, 1918	Merrill Trust Co., Bangor, Me. Demand	5,000.00
June 17, 1918	Merrill Trust Co., Bangor, Me. Demand	10,000.00
Nov. 15, 1918	Merrill Trust Co., Bangor, Me. Demand	10,000.00
May 16, 1919	Merrill Trust Co., Bangor, Me. Demand	5,000.00
May 16, 1919	Merrill Trust Co., Bangor, Me. Demand	5,000.00
April 29, 1920	Merrill Trust Co., Bangor, Me. Demand	15,000.00
June 10, 1920	Merrill Trust Co., Bangor, Me. Demand	20,000.00
		<hr/> \$145,000.00

SCHEDULE NO. 9—SURPLUS AND HOW EMPLOYED

Surplus Decreased	\$26,493.87
Assets Increased	

Cash	\$ 2,738.58
Accounts Receivable	16,454.97
Inventories	5,294.82
Plant	361.56
	<hr/> 24,849.93

Liabilities Decreased

None	<hr/> \$51,343.80
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Assets Decreased

Notes Receivable	98.91
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Liabilities Increased

Accounts Payable	51,244.89
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\$51,343.80

Income:

State:

Maintenance Appropriation	\$210,000.00
Emergency Appropriation	30,000.00
Revenue from U. S. Government by State Superintendent of Schools	6,165.84
Contribution towards salary of Test- ing Engineer by State Highway Com- mission	1,000.00

\$247,165.84

Nation:

Income from Land Grant—Act of July 2, 1862	\$ 5,915.00
Additional Endowments—Acts of Aug. 30, 1890 and March 4, 1907	50,000.00

\$55,915.00

Students:

Tuition	\$115,848.37
Special Fees for Late Registration	827.00
Thesis Binding Fees	55.00
Diplomas	1,101.00

\$117,831.37

Investments:

Coburn Trust Fund Income	\$ 4,000.00
Rents	1,769.27

\$5,769.27

Dormitories and Hotel:

University Inn	\$15,724.99
Mt. Vernon House	9,785.85
Mt. Vernon Annex	355.00
Oak Hall	3,441.50
Hannibal Hamlin Hall	5,506.50
Balentine Hall	30,013.17
Commons	44,712.57
Farm Boarding House	3,602.40
Balentine Annex	461.00

\$113,602.98

Income from All Other Sources:

University Press	\$22,022.34
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Laboratory Fees:

College of Agriculture	2,029.91	
College of Arts and Sciences	1,563.11	
College of Technology	9,401.17	12,994.19

Library Fees	100.26	
Lockers	236.50	
Trucks and Automobiles	2,743.17	
Athletics	12,121.50	
Commencement	133.75	
Laundry	686.66	
F. W. Hill Estate	2,555.79	
Sales—Agronomy Dept.	11,211.65	
Sales—Animal Industry Dept.	15,475.33	
Sales—Horticulture	958.89	
Interest on bank deposits	764.29	
Contributions of Great Northern and Oxford Paper Companies for benefit of Chemistry Courses	1,500.00	
Miscellaneous	6.30	
Profit and Loss, Revenue on pre- vious year	10.96	
Credit Inventory Adjustment	42,522.94	\$126,044.52

\$666,328.98

Deficit for year	26,493.87
	<hr/>
	\$692,822.85

Expenses:

Administration:

Salaries of Officers	\$14,861.25	
Pay of Clerks and Attendants	8,770.67	
Advertising	362.70	
Stationery and Supplies	4,155.87	
Printing and Binding	11,728.27	
Interest on Floating Debt	10,965.06	
Traveling Expenses	601.00	
Telephone and Telegraph	595.89	
Miscellaneous Expenses	3,168.72	
Commencement	679.76	
Diplomas	133.15	\$56,022.34
	<hr/>	

Maintenance of Plant and Equipment:

	Labor	Material
Superintendence	\$1,369.04	
Campus Grounds	3,654.50	100.10
Underground Conduits and Pipe Lines	1,462.95	362.57
Offices and Instruction Buildings	2,095.60	1,466.43
Faculty Houses	611.96	463.81
Library	231.57	137.56
Power Plant Buildings	251.31	208.66
Farm Buildings—Agronomy	164.38	13.52
Farm Buildings—Animal Industry	505.08	518.78
Horticulture Buildings	93.62	18.92
Insurance		4,210.22
Care of Buildings	8,809.32	1,308.56
Machinery Tools and Supplies	8.75	16.51
Repair Shop Employees	1,249.91	
Autos and Trucks	37.48	1,431.83

Materials and Supplies		6,092.10	
Repair Shops	129.90	42.76	
Miscellaneous Structures	177.78	110.33	
	<hr/>	<hr/>	
	\$20,853.15	\$16,502.66	\$37,355.81

Power, Heat, Light and Water:

	Labor	Material	
Superintendence	916.09		
Pay of Employees	7,574.37		
Fuel	4,580.79	53,492.28	
Electricity		2,468.90	
Water		1,634.60	
Supplies		3,632.29	
Miscellaneous Expenses		250.26	
	<hr/>	<hr/>	
	\$13,071.25	\$61,478.33	\$74,549.58

College of Agriculture—Business

Agronomy:

Equipment	\$ 164.22	
Labor	7,861.11	
Office Supplies and Expenses	21.12	
Miscellaneous Supplies and Expenses	1,676.18	
Feed	1,555.27	
Fertilizer and Seeds	1,595.79	\$12,873.69
	<hr/>	

Animal Industry:

Equipment	\$ 970.17	
Labor	8,596.79	
Office Supplies and Expenses	96.94	
Miscellaneous Supplies and Expenses	2,675.85	
Feed	14,853.68	\$27,193.43
	<hr/>	

College of Agriculture—Education

Salaries of Instructors		\$41,592.46
Clerk Hire		2,293.84

Agronomy:

Equipment	\$ 71.50	
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Office Supplies and Expenses	4.15	
Miscellaneous Supplies and Expenses	126.19	201.84
<hr/>		
Animal Industry:		
Equipment	\$ 829.89	
Traveling Expenses	8.54	
Office Supplies and Expenses	36.45	
Miscellaneous Supplies and Expenses	380.23	1,255.11
<hr/>		
Horticulture:		
Equipment	\$ 126.58	
Traveling Expenses	1,785.75	
Office Supplies and Expenses	57.06	
Miscellaneous Supplies and Expenses	1,391.48	3,360.87
<hr/>		
Bacteriology and Veterinary Science:		
Miscellaneous Supplies and Expenses		217.90
Biological and Agricultural Chemistry:		
Office Supplies and Expenses	6.80	
Miscellaneous Supplies and Expenses	436.78	443.58
<hr/>		
Home Economics:		
Equipment	\$244.53	
Office Supplies and Equipment	19.29	
Miscellaneous Supplies and Equipment	574.87	838.69
<hr/>		
College Extension:		
Traveling Expenses	\$1,386.07	
Office Supplies and Expenses	30.65	
Miscellaneous Supplies and Expenses	.75	1,417.47
<hr/>		
College General		
Traveling Expenses	\$ 349.34	
Office Supplies and Expenses	247.91	
Miscellaneous Supplies and Expenses	459.07	1,056.32
<hr/>		
Practice House:		
Equipment	\$ 99.75	

Miscellaneous Supplies and Expenses	1.02	100.77
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Forestry:

Traveling Expenses	\$ 37.87	
Office Supplies and Expenses	45.06	
Miscellaneous Supplies and Expenses	15.28	98.21

Vocational Agricultural Education:

Personal Services	\$5,426.60	
Expenses	1,835.72	7,262.32

College of Arts and Sciences:

	Equipment	Expenses	
Salaries of Instructors		\$113,110.75	
Clerk Hire		553.21	
Stationery and Supplies		161.31	
Traveling Expenses		8.35	
Telephone and Telegraph		28.00	
Physics	443.93	304.60	
Mathematics and Astronomy	3.50	29.60	
English		82.73	
Spanish and Italian		44.00	
French		3.25	
German		.50	
History		14.00	
Latin		7.75	
Biology	549.89	658.46	
Economics and Sociology	90.31	87.58	
Education	2.95	70.61	
Music		8.79	
Public Speaking		19.34	
	1,090.58	115,192.83	116,283.41

College of Technology:

	Equipment	Expenses
Salaries of Instructors		62,091.88
Clerk Hire		892.75
Stationery and Supplies		258.36

Traveling Expenses		492.91	
Telephone and Telegraph		61.11	
Chemistry	3,768.77	5,249.14	
Civil Engineering	547.25	478.23	
Electrical Engineering	1,804.39	534.30	
Mechanical Engineering	1,130.82	949.44	
Mechanics and Drawing		161.29	
Technology	113.95	343.14	
Engineering Drawing	441.79	974.39	
	<hr/>	<hr/>	
	7,806.97	72,485.94	\$80,292.91
College of Law:			
Salaries of Instructors		1,910.02	
Clerk Hire		116.00	
Law Library	295.18	26.05	
Law	22.61	406.49	
	<hr/>	<hr/>	
		2,458.56	
Less Interest on Stewart Fund		800.00	
	<hr/>	<hr/>	
	\$317.79	\$1,658.56	1,976.35
Operation of Trucks and Automobiles:			
Pay of Operators		750.00	
Supplies		2,053.02	2,803.02
		<hr/>	
Library:			
Pay of Librarian and Employees		5,521.24	
Stationery and Supplies		219.18	
Books and Periodicals		5,062.75	
Miscellaneous Expenses		495.19	11,298.36
		<hr/>	
Laundry:			
Pay of Employees		793.07	
Machinery—Expenses		24.95	
Miscellaneous Supplies and Expenses		217.54	1,035.56
		<hr/>	
University Press:			
Machinery and Fittings—Equipment		482.92	
Machinery and Fittings—Expenses		633.67	

Pay of Manager and Employees	10,576.41	
Office Supplies	292.14	
Power, Heat, Light and Water	397.73	
Stock Supplies, including Freight & Express	10,890.02	
Repairs	89.37	23,362.26

Physical Training:

Salaries of Instructors	\$ 8,933.18	
Clerk Hire	50.00	
Equipment	2,527.07	
Expenses	17,262.64	
Labor	149.61	\$28,922.50

Military Science:

Clerk Hire	327.00	
Equipment	7.52	
Expenses	388.70	723.22

Prizes	175.00	
1920 Summer School Deficit	807.29	
Dormitories (see detailed statement page 30)	123,799.84	
Profit and Loss (Revenue charges previous year)	63.50	
Debit Inventory Adjustments	33,145.40	
Total	\$692,822.85	

Hotel and Dormitories--Statement of Income and Expenses

	University Inn	Mt. Vernon House	Mt. Vernon Annex	Oak Hall	Hannibal Hallin	Balentine Hall	Balentine Annex	Commons	Farm Boarding House	Totals
Income:										
Total Income	15724.99	9875.85	355.00	3441.50	5506.59	2923.17	461.00	44712.57	3602.40	113692.98
Inventory Increases	34.89	57.81					774.67		121.00	1257.37
Deficit	851.64	1326.12	1586.23	699.51	1857.87	1171.75	924.61	4723.46	2585.64	15639.83
	16884.52	11259.78	1941.23	4042.01	7354.37	31694.92	2160.28	49436.03	6308.04	139491.18
Expenses:										
Superintendence	699.99	779.59	417.00			875.00	482.00	412.70		3587.29
Pay of Employees	2844.41	2662.42	282.92	699.89	1073.33	6761.39	147.50	8445.82	1987.47	24994.67
Heat, Light & Water	1784.02	1226.34	419.64	2134.28	2993.85	2196.99	37.88	692.57	212.31	11278.88
Rental	456.00									456.00
Repairs	216.27	674.78	411.26	525.62	788.63	1027.81	536.70	111.09	166.73	4489.47
Food Supplies	9613.26	6932.53				17319.75		35919.94	4418.44	73272.52
Furniture & Fixtures										
Equipment	126.13	58.16	129.31	55.35	149.71	491.31	944.14	392.95	170.52	2428.58
Expenses	79.79	1.19	3.59		14.75	51.87		14.25	35.10	189.61
Kitchen Utensils	419.69	112.41	6.78		13.55	795.58		872.26	89.64	2399.82
Equipment										
Kitchen Utensils	47.82	7.51	16.93		18.47	48.43		324.01	7.79	435.56
Expenses	66.77	51.98		6.99		121.32	3.35	133.01	26.26	464.91
Miscellaneous Expense	27.98	27.12	9.64	31.87	257.26	173.21	8.81	49.83	39.91	796.63
Laundry										
Total Expense	16146.36	11194.35	1757.98	3714.89	5219.48	29682.19	2169.28	47379.14	6254.17	123799.84
Inventory Decreases	438.16	65.43	183.25	327.12	2133.89	1412.73		2556.89	53.87	6491.34
	16884.52	11259.78	1941.23	4042.01	7354.37	31694.92	2160.28	49436.03	6308.04	139491.18

Income	Administra- tion	Maintenance of Plant & Equipment	Power, Heat, Light and Water	Trucks and Autos	Library	Laundry	Press	Physical Training	Military	Hotel & Dorms.	Colleges	Totals
Administration												
Revenue (exclusive of Appropria- tions)	*9240.36			2743.17	100.26	686.66	22022.34	12358.00		113632.98	# 167137.27	327891.04
Coburn Trust Fund												
Rents												
Interest												
F. W. Hill Estate												
Miscellaneous												
Total	*9240.36											
Colleges												
Agriculture												
Arts & Sciences												
Technology												
Students												
Smith-Hughes Fund												
Teacher Training												
Total	#167137.27											
Inventory Increases												
Appropriation by U. S. Government for Instruction State of Maine	377.25	1495.40	24866.40	47.80	2.20			35.80	20.75	1257.37	14419.97	42522.94
Deficit as heretofore shown	21114.34	36639.19	52929.68	1737.65	12026.20	513.63	7238.69	16798.72	745.43	15630.83	55915.00	55915.00
	26493.87										74626.25	240000.00
												26493.87
	57225.82	38134.59	77796.08	4528.02	12128.66	1200.28	29261.03	29192.52	766.18	130491.18	312098.49	692822.85
Expenses												
Personal Services												
Subsistence	23631.92	20853.15	13971.25	750.00	5521.24	793.07	10576.41	9132.79	327.00	27683.87	244445.41	356786.11
Repairs and Equipment												
General Expense	33436.21	10983.88	61478.33	2053.02	5062.75		572.20	2527.09	7.52	73272.52	11721.98	73272.52
		5518.78			714.37	242.49	12213.56	17262.64	388.70	9227.87	42591.78	40103.36
												189515.46
	57068.13	37355.81	74549.58	2803.02	11298.36	1035.56	23302.26	28922.50	723.22	123799.84	298759.17	659677.45
Inventory Decreases	157.69	778.78	3246.50	1725.00	830.30	164.72	5898.77	270.02	42.96	6691.34	13339.32	33145.49
	57225.82	38134.59	77796.08	4528.02	12128.66	1200.28	29261.03	29192.52	766.18	130491.18	312098.49	692822.85

Co-operative Extension Work in Agriculture and Home Economics—Smith-Lever Funds

	Total	Federal	State
Income:			
Appropriation for Co-operative Agricultural Extension Work	55,345.56	32,672.78	22,672.78
*Appropriation for Supplementary Extension Work	21,941.49	10,970.70	10,970.70
Totals	77,286.96	43,643.48	33,643.48
*State Appropriation for Supplementary Extension Work paid to and expended by County Bureaus.			
Expenditures:			
Summary statement of Expenditures by projects showing sources of funds			
Projects			
Administration and Publications	14,362.11	5,966.24	8,395.87
County Agents	27,563.71	29,358.69	8,295.92
Home Economics	2,497.82		2,997.82
Home Demonstration Agents	9,665.88	4,621.87	5,044.91
Poultry Husbandry	2,582.42		2,582.42
Extension Schools	123.47		120.40
Dairying	3,044.81		3,044.81
Farm Management	2,265.66		2,265.66
Sheep Husbandry	1,887.47		1,887.47
Boys and Girls' Clubs	3,696.68	3,696.68	
Totals	77,286.96	43,643.48	33,643.48
Summary statement of Expenditures by Items of Expense, showing sources of funds			
Items of Expense			
Salaries	46,866.59	26,994.63	20,771.96
Labor	292.04	46.31	245.73
Printing and Distribution of Publications	924.51	924.51	
Stationery and Small Printing	2,258.99	1,394.14	863.86
Postage, etc.	288.05	227.94	168.91
Heat, Light, etc.	.25	.25	
Supplies	193.27	149.27	53.00
Library	51.91	6.65	44.36
Tools, machinery, etc.	55.98	32.12	22.96
Furniture and Fixtures	1,906.27	1,262.51	643.76
Scientific Apparatus, etc.	21.63	10.88	10.75
Traveling Expenses	24,319.66	13,491.57	10,819.09
Contingent Expenses	19.69	19.69	
Totals	77,286.96	43,643.48	33,643.48

MAINE AGRICULTURAL EXPERIMENT STATION

ASSETS AND LIABILITIES

Assets:

State of Maine	Schedule No. 1	\$ 2,897.56	
Accounts Receivable	" "	2	4,907.94
Inventories	" "	3	76,085.47
Plant	" "	4	90,800.00
			<hr/>
			\$174,690.97

Liabilities:

University of Maine	Schedule No. 5	39,750.77	
Accounts Payable	" "	6	563.58
Surplus	" "	7	134,376.62
			<hr/>
			\$174,690.97

SCHEDULE NO. 1—STATE OF MAINE

Appropriation for Animal Husbandry	\$ 507.76	
Appropriation for Scientific Investigation		
Aroostook Farm	556.22	
Appropriation for Highmoor Farm	1,833.58	\$2,897.56
		<hr/>

SCHEDULE NO. 2—ACCOUNTS RECEIVABLE

Dept. of Agriculture, Analysis Account	3,212.84	
Aroostook Farm Barn Roof Replacement	1,695.10	4,907.94
		<hr/>

SCHEDULE NO. 3—INVENTORIES

Aroostook Farm, Presque Isle	6,793.11
Biological Laboratory, Orono	7,835.62
Chemical Laboratory, Orono	11,683.61
Entomological Laboratory, Orono	6,789.43
Highmoor Farm, Monmouth	15,517.84
Office and Library, Orono	21,501.12

Plant Pathology, Orono	2,926.79	
Seed and Photographic Laboratory, Orono	3,037.95	76,085.47
		<hr/>

SCHEDULE NO. 4—PLANT

Aroostook Farm, Presque Isle	25,000.00	
Highmoor Farm, Monmouth	12,500.00	
Incubator and Employees House, Orono	1,800.00	
Poultry Houses, Orono	3,350.00	
Holmes Hall, Orono	23,500.00	
Highmoor Farm, New Construction	24,650.00	90,800.00
		<hr/>

SCHEDULE NO. 5—UNIVERSITY OF MAINE

Amount due the University represents bills paid by the University or for which the latter is liable and for which it has not been reimbursed 39,750.77

Details:

Balance due University, July 1, 1920	23,339.03	
Deficit for year	7,858.85	
Plant increase (Highmoor Barn)	11,358.44	
Accounts Payable decrease	2,256.21	
		<hr/>

Less: 44,812.53

Accounts Receivable—

Decrease	3,670.97	
Due from State—Decrease	1,390.79	5,061.76
		<hr/>

39,750.77

SCHEDULE NO. 6—ACCOUNTS PAYABLE

Aroostook Farm—Potato Pathology	302.21	
—Horticulture	49.21	
—Soil Fertility		
Investigations	174.78	
Inspection Analysis Receipts	37.38	563.58
		<hr/>

SCHEDULE NO. 7—SURPLUS AND HOW EMPLOYED

Surplus Decreased	\$3,652.30	
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Assets Increased

Inventories	\$ 4,206.55	
Plant	11,358.44	15,564.99
	<hr/>	

Liabilities Decreased

Accounts Payable	2,256.21	21,473.50
	<hr/>	

Assets Decreased

Due from State decreased	1,390.79	
Accounts Receivable	3,670.97	5,061.76
	<hr/>	

Liabilities Increased

University of Maine	16,411.74	21,473.50
	<hr/>	

Income, Expenses and New Construction

	STATE						FEDERAL		
	Animal Husbandry	Aroostook Farm	Highmoor Farm	Inspection Analysis	General Account	Total	Total	Hatch	Adams
Income:									
Appropriations									
Animal Husbandry	5000.00					5000.00		15000.00	15000.00
Scientific Investigations						5000.00			
Aroostook Farm		5000.00	5000.00			5000.00			
Highmoor Farm									
Other Income									
Animal Husbandry	611.34					611.34			
Aroostook Farm		5988.08				5988.08			
Highmoor Farm			3848.39			3848.39			
State of Maine, Commissioner of Agriculture				12486.65		12486.65			
General Fund Income					6817.63	6817.63			
	5611.34	19988.08	8848.39	12486.65		44732.09	30000.00	15000.00	15000.00
Operating Deficit									
Expenditure—New Construction			11358.44		7858.85	19217.29			
Total Deficit and New Construction	5611.34	19988.08	20206.83	12486.65	14676.48	68919.38	30000.00	15000.00	15000.00

ANNUAL REPORT

STATE					FEDERAL		
Animal Husbandry	Arrostock Farm	Highmoor Farm	Inspection Analysis	General Account	Total	Hatch	Adams
2053.02	1200.00	1350.92	11225.67	562.02	16387.73	7616.09	2919.67
1612.58	5694.86	3699.39		3525.91	14332.74	7298.57	5375.63
5.10				5.52		4905.91	3137.25
129.38	44.36	37.70	247.90	211.55	13.62	130.00	100.00
130.81	22.16	30.74	108.08	391.11	670.89	2194.38	825.94
13.00	110.74	432.31	364.00	1458.29	651.90	159.93	
		12.50	204.38		2345.34	155.74	73.23
194.13	626.17	640.96	84.04	19.94	227.82	71.89	83.85
	1292.13	731.91		632.33	2177.63	615.16	115.93
1098.39	922.16	159.93		80.00	2104.04	127.70	119.70
			6.00	3766.04	5946.52	246.80	154.91
				640.64		333.16	1161.35
23.25	458.66	744.91		924.31	2074.95	190.26	14.69
50.30	3.22	192.32	29.22	121.24	2150.78	339.34	3.15
			30.15	7.89	396.00	95.25	53.00
					38.04	42.25	
				1299.62	1506.62	29.01	229.28
52.23	10.05	13.84	152.83	352.98	114.45	315.93	114.45
223.00	119.22	100.84	30.80	146.50	743.54	315.93	427.61
62.50	157.35	731.02	3.58	610.89	45.62	25.62	23.00
					95.51	16.15	79.36
5611.34	10938.08	8848.39	12486.65	14676.48	30000.00	15000.00	15000.00
		11358.44					
5611.34	10938.08	20206.83	12486.65	14676.48	30000.00	15000.00	15000.00

Respectfully submitted,

CHARLES J. DUNN, *Treasurer, University of Maine.*

Expenses:

Salaries—Administration
Salaries—Scientific Staff
Salaries—Scientific Staff—Assistant;
Salaries—Special and Temporary Se-
Labor
Publications
Postage and Stationery
Freight and Express
Heat, Light, Water and Power
Chemical Supplies and Samples
Seeds, Plants and other Supplies
Fertilizers
Feeding Stuffs
Library
Tools, Machinery and Appliances
Furniture and Fixtures
Scientific Apparatus
Live Stock
Traveling Expenses
Contingent Expenses
Buildings and Land

New Construction—Plant Increase

Total! Expense and Plant Increase

CONTENTS

Letter of Transmissal.....	3
President's Report.....	4
Treasurer's Report.....	13

The Maine Bulletin

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ANNUAL REPORT

OF THE

University of Maine

For the Year Ended June 30, 1922

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UNIVERSITY PRESS
ORONO, MAINE

INDEX

	Page
Letter of Transmissal from the President of the Board of Trustees.....	3
Cutter & Eldridge (Report on Buildings).....	8
Johns-Manville (Report on Steam Plant).....	10
Charles B. Breed (Report on College of Technology).....	15
Equipment needs in detail.....	23
Resident Auditor's Certificate.....	41
Report of the Treasurer.....	42

Letter of Transmissal from the President of the Board of Trustees

To the Honorable Governor and Council of the State of Maine:

I have the honor on behalf of the Board of Trustees of the University of Maine to transmit to you the annual report of the University for the year ended June 30, 1922.

The affairs of the University for the past year have been under the direct personal control of the Board of Trustees through its Executive Committee. On August 4, 1921, the resignation of Dr. Robert J. Alez as President of the University was accepted. Dr. Alez began his term of office on December 1, 1910, and the seeming best testimony of his worth is shown by the registration; the attendance for his first college year being eight hundred and fifty-eight (858) students, and for his last one thousand four hundred and sixty-six (1466). Dr. Alez left us to accept the Presidency of Butler College, Indiana, his native State, and it is with pleasure we bear witness to his sterling worth and untiring labor in behalf of the University of his adopted State, for during his residence here he was as truly a son of Maine as any native born. His term as President will always be regarded by his associates as marking an epoch in our history.

The direct control thus being thrown upon the Executive Committee, and the utter inadequacy of the State appropriation forced the administration to drastic and stingy methods, and while we lived within our income we did it by denying to our students that which in all fairness was their due. In spite of this there were graduated 201, with degrees as follows:

Bachelor of Science, College of Agriculture.....	39
Bachelor of Arts.....	66
Bachelor of Pedagogy.....	7
Bachelor of Science, College of Technology.....	76
Bachelor of Laws.....	1
Master of Arts.....	1
Master of Science.....	5
Chemical Engineer.....	2
Civil Engineer.....	2
Electrical Engineer.....	2

The total registration for the year was 1608. Of these 148 were special students in Education. Excluding the special students, 1125 men and 335 women were enrolled. Twelve hundred and seventy were residents of Maine and 190 resided elsewhere.

The Legislature of 1870, Resolve, Chapter 179, provided that before appropriations were paid "there shall be vested in the State a perfect title to the premises heretofore conveyed by the town of Orono for the purposes of said college." And in conformity thereto there is recorded in Penobscot County Registry of Deeds, Vol. 400, Page 253, a certain conveyance as follows:

KNOW ALL MEN BY THESE PRESENTS That the Trustees of the State College of Agriculture & Mechanic Arts, a corporation constituted by Act of the Legislature of Maine approved Feby. 25th, 1865 in order to carry into effect the provisions of a Resolve in favor of said College, passed by said Legislature & approved March 19, 1870 & in further consideration of one dollar paid by the STATE OF MAINE the receipt of which is acknowledged, do hereby sell & convey release & forever quit-claim to said State of Maine their successors & assigns all the real estate, land & buildings thereon situate in Orono in the County of Penobscot & now used & occupied by said Corporation as their College grounds, being all & same premises particularly described in deed from the Inhabitants of said Orono to said Trustees of the College aforesaid bearing date the twenty sixth day of March A. D. 1866 & recorded in the Penobscot Registry of deeds Book 374 Page 430 and also in their, said Inhabitants, other deed of release bearing date July 16, 1870, and delivered at the same time herewith reference to said deeds to be had, subject to the condition set forth in said last named deed to said Trustees of said College.

TO HAVE AND TO HOLD the premises with all the privileges & appurtenances thereof to the said State of Maine their successors & assigns forever, subject only to the condition aforesaid; which condition is that if at any time the said land shall cease to be used for the purposes of said College, then the said State shall pay to said town of Orono the sum of Money heretofore expended by that town in the purchase of said premises viz eleven thousand dollars.

IN WITNESS WHEREOF the said Trustees of the State College of Agriculture and Mechanic Arts for the purpose aforesaid & in pursuance of said Resolve of the Legislature above recited have hereunto by Abner Coburn President & Samuel Johnson Clerk hereto duly authorized by a vote of said Corporation passed this twenty-eighth day of July A. D. 1870, set their hands and the seal of said Corporation on the twenty-eighth day of July, Eighteen hundred & seventy.

Signed, sealed and delivered,	}	Trustees of State College
in presence of		of Agriculture & the Mechanic
A. W. Paine		Arts. Abner Coburn
		President (LS)
		Samuel Johnson, Clerk

Penobscot ss. July 28, 1870. Personally appeared Abner Coburn President & Samuel Johnson Clerk of the Trustees of State College of Agriculture & Mechanic Arts and acknowledged the foregoing to be their & said Corporation free act & deed.

Before me, Albert W. Paine

Justice of the Peace

Received July 29, 1870, 10h, 10 m, A. M. Entered & compared
By Amos E. Hardy, Regr.

Copied from Vol. 400, Page 253.

STATE OF MAINE

PENOBSCOT, SS.

A true copy from
Vol. 400 Page 253
Warren E. Craig, Reg'r

The Executive Committee, knowing of the ownership as above, asked and received from the full Board permission to make a thorough survey of building and equipment and employed in every case men eminently equipped by experience to determine what is most urgently needed to put the University plant on a par with all others whose property is owned by the State.

We call your special attention to the report of Messrs. Cutter & Eldridge; \$147,000.00 for proper repair of buildings alone.

Especially do we ask proper observance of Prof. O. B. Breed, of the College of Technology, Boston, and his report on our Pulp and Paper Equipment and utter failure of Hydro-Electric laboratory,—with the immense potential water power in the State. He recommends \$40,000.00 as the necessary amount to equip properly our College of Technology.

Mr. Walsh, Vice-President and Efficiency man of Johns-Manville Company, reports on incompleteness and worn-out condition of heating plant in its underground pipes. A serious condition is liable to confront us any moment during the coming Winter by the bursting of one or more of our many pipes which are now doing duty on borrowed time. Estimates based on his report amount to about \$50,000.

Dean Merrill, of the College of Agriculture, and his assistants, after a most thorough investigation, state in detail their need of \$24,000, while the College of Arts and Science needs \$17,286.

These reports submitted in full as a part of our report show what has happened to our University during the past six years because of insufficiency of funds, and unless some way is found whereby we may be restored to the point where efficiency is our chief concern, we must expect and deserve serious criticism from the people of the State, and especially from those whose sons and daughters are registered as students.

We have outstanding *\$240,000.00 in notes which were negotiated to cover the deficiency of the University. This was done after a canvass of the situation with Governor Baxter, and with the implied, if without the formal, approval of the Executive Council.

The vacancy in the office of President was filled by the election of Dr. Clarence C. Little, a graduate of Harvard, of the class of 1910. He was inaugurated on May 10th, and assumes the full reins of office on the beginning of the college year of 1922-23.

The reports of previous years have shown the need of new buildings, and each year the need increases. Buildings for which money was appropriated in 1917 were not built, because the Trustees, the State being under the stress of a World War,

*Since the date of this report this amount has been reduced \$22,500, by deficiency appropriation which became available July 1st 1922.

deemed it inexpedient to use the money for the purpose, and the appropriation therefore lapsed.

What the University has heretofore asked from the State, and for reasons not now criticised, it has not yet received, it still needs, even more imperatively than before.

Respectfully submitted,

FREDERIC H. STRICKLAND,

President of the Board of Trustees.

Cutter & Eldridge Report on Buildings

Estimate of Leslie W. Cutter and Fred E. Eldridge of cost of putting the Buildings on the Campus in a normal state of repair, including an estimate of \$15000. if delayed one year.

Alumni Hall	Carpenter work, mason work & painting	inside	7,469.15
		outside	1,023.00
Coburn Hall		inside	3,039.00
		outside	535.00
Aubert Hall		inside	2,582.00
		outside	505.00
Wingate Hall		inside	3,744.00
		outside	716.00
Oak Hall		inside	4,748.00
		outside	2,153.00
Hannibal Hamlin Hall		inside	8,047.00
		outside	685.00
Mt. Vernon		inside	2,019.00
		outside	966.00
Balentine Hall		inside	9,226.00
		outside	433.00
Fernald Hall		inside	4,213.00
		outside	776.00
Winslow Hall		inside	12,569.00
		outside	1,593.00
Holmes Hall		inside	3,779.00
		outside	335.00
Library		inside	3,143.00
		outside	857.00
Graves		inside	1,081.88
		outside	342.00
North Hall		inside	1,553.50
		outside	406.00
Infirmery		inside	197.00
		outside	304.00
H. Hamlin annex		inside	516.00
		outside	438.00
Estabrook Hall		inside	1,862.00
		outside	768.00
University Press		inside	444.00
		outside	492.00
Carpenter Shop		outside	120.00
Observatory		outside	71.50
Horticultural Bldg.		inside	375.00
		outside	515.00
3 new green houses			9,374.00

University Inn	inside	836.00
	outside	685.00
Heating Plant	inside	70.00
	outside	270.00
Professors House	inside	856.00
	outside	356.00
Storehouse	outside	660.00
Stable	outside	1,278.00
Barn	outside	742.00
Home Economics	inside	1,639.00
	outside	878.00
Stock Judging Building	inside	57.00
	outside	86.00
Dairy Bldg.	inside	809.00
	outside	210.00
Farm Bldg. #1	inside	631.00
	outside	221.00
Farm Bldg. #2	inside	210.00
	outside	201.50
Pipe House	inside	131.00
	outside	107.50
Lion House	outside	192.00
Stillwater Barn	outside	1,280.00
Plumber's House	inside	523.00
	outside	501.00
Pump House	outside	163.00
Farm Bldg. #3	inside	359.00
	outside	376.00
Farm Bldg. #4	outside	118.00
Farm Bldg. #5	outside	359.00
Farm Bldg. #6-7-8	outside	4,581.00
No. 21	outside	2,319.00
Sheep Shed	outside	650.00
Piggery	outside	418.00
Garage	outside	705.00
Running Track		400.00
#22	inside	519.00
	outside	302.00
No. 43 #1	inside	905.00
	outside	340.00
No. 43 #2	inside	881.00
	outside	454.00
No. 43 #3	inside	673.00
	outside	571.00
No. 43 #4	inside	914.00
	outside	517.00
Law School	inside	2,611.00
	outside	882.00

Lord Hall	inside	4,099.00
	outside	902.00
Total		132,454.03

\$15,000 additional if repairs are delayed one year.

Dated Bangor, May 8, 1922

Signed LESLIE W. CUTTER

FRED E. ELDRIDGE

Johns-Manville Report on Steam Plant

Boston, Mass., June 2, 1922

Mr. Frederick H. Strickland,
President Board of Trustees
University of Maine
Orono, Me.

Dear Sir:

We submit herewith report dealing with the conditions in your steam plant at the University of Maine. I have endeavored to cover the proposition, and hope it will meet with your requirements. I have only undertaken to include the approximate costs of the insulation of the different steam surfaces and the garage. In both cases these approximate costs would not cover the labor, and it might be well to add for a labor item, 33- $\frac{1}{3}$ %.

In reference to the cost of the tunnel construction, including the excavation, tunnels of this size in Boston and vicinity, could probably be constructed for \$40.00 per lineal foot, but with help that you might employ there, using your own teams for removing the surplus earth and doing the necessary carting, the price I mentioned per lineal foot could be cut down considerably, and therefore thought best not to state price for tunnels.

The condition of your ground being of clay, a hard pan nature, it should be waterproofed on the outside, and proper underdrains installed at the outside bottom corners of the tunnels. This additional work might run the price of the tunnel up to \$50.00 per lineal foot.

Would it not be a practical thing, after receiving my report, to decide how far you are to extend the tunnels, get an estimate from your Supt. of Buildings and others on the piping and tunnel construction, together with other required changes, and then if you wish me to write an additional report embodying the prices for the tunnels, etc., I will be very glad to do so. I expect to be back in Boston in four weeks, but if this is not sufficient time you can address me at our New York office, Madison Avenue & 41st Street.

Yours very truly,

JOHNS-MANVILLE INC. of Mass.

Jos. H. Walsh, Assistant Manager

Boston, Mass., June 2, 1922

Mr. Frederick H. Strickland,
President Board of Trustees
University of Maine
Orono, Me.

Dear Sir:

We are in receipt of letter of May 24th signed by Edward H. Kelley, Assistant Treasurer and Purchasing Agent, requesting that we make a survey of your underground system with recommendations. In company with your Mr. T. S. Morton, Supt. of Buildings, and Mr. P. O. Junkins, Master Plumber, we looked over the major part of the basement of buildings, underground lines and power house, and submit our report as follows for your consideration:

In view of the fact that you have had so much trouble with leaky steam lines, caused principally at the couplings, and not knowing at what moment serious trouble might appear, our recommendations would be that as far as possible you re-place your present underground system of conveying steam with concrete tunnels,—approximate size of tunnel 5 ft. wide by 6 ft. high inside with re-inforced ceilings. These tunnels would then be of a size that would be easy of access, giving you ample room to handle your tools when piping is in need of repair,—insulating the supply and high pressure lines with double standard thick insulation, protected with an Asbestos Waterproof Roofing jacket,—the returns insulated in the same manner with a single thickness of insulation. A type of hanger should be used that will allow a continuous insulation over the roller in the outer layer.

These tunnels, in addition to carrying the steam lines, will also carry your electric wires and hot water service pipes, providing you later wish to install same from the central plant instead of having the individual hot water system as you now have in the various buildings.

The insulation in the power house appears to be in very good shape, but if there are any exposed surfaces they should be insulated.

We understand that No. 4 boiler needs to be re-set. You have at present one cold water supply for boiler feed. It would be advisable for you to run a 3" galvanized cold water pipe from river to boiler house for use in case of emergency. If you should have trouble with your present line, it might be very serious, not having a supply of feed water for your boilers.

In Lord Hall, which is now heated by a fan and heater, you should have a cold air chamber constructed to deliver air to the fan,—this air being taken from out-doors. At present you are taking air for the fan from the basement and circulating it through the various rooms, which would be considered very poor practice, especially from a healthful standpoint. You should have no pipes of any nature in this cold air chamber.

In your heater system you are carrying on your low pressure lines 5 pounds pressure gauge and on your high 75 pounds. The need of any such pressure must be known by your engineers, but, if possible, it should

be cut down, providing your main supply lines from the power house are of proper size to supply sufficient quantity of steam with 50 or 60 pounds.

You burned last year 4500 short tons of coal, costing, laid down at the college, \$11.10 per ton. Your total radiation, exclusive of all exposed steam mains and branches in the various buildings was 42,409 square feet, which indicates that you burned last year 212 pounds of coal per square foot of radiation per heating season. We consider this excessive and a substantial saving can be effected with additional insulation.

If the large, tilting traps which are in use in the various buildings are to remain as part of the system, they should also be thoroughly insulated.

In going through the basements of the various buildings, we found considerable piping exposed in:

Lord Hall
Wingate Hall
Aubert Hall
Oak Hall
Hannibal Hamlin Hall
Balentine Hall
Coburn Hall

and a number of other buildings.

The large open garage, which you are now heating, contains approximately 1100 square feet of radiating surface, being heated by high pressure steam reduced in building. This, without question, is a very expensive proposition. Estimating roughly the heating surface in this building, we figure it will require \$1600. worth of coal per heating season. We therefore suggest that you apply to the timbers on the inside of this garage the Peerless Brand of Keystone Hair Insulator and over this, $\frac{1}{4}$ " Fireproof Transite Lumber with batten strips. Before applying this insulating and fireproof material, form a ceiling in the garage with timbers running from plate to plate, which would be 9'-9" high. With this change you would cut down the quantity of your coal 50%.

For this fireproofing and insulation you will require approximately 10,396 square feet of $\frac{1}{4}$ " Asbestos Transite Lumber unsanded, and 21 bales of Peerless Brand Keystone Hair Insulator. The approximate cost of the materials is \$2,399.00, freight allowed to Orono.

The new tunnel construction which we would recommend would run from Fernald Pit No. 1 to the old tunnel, a distance of approximately 325 feet, which would replace the present 27" steam enclosure. From the old conduit run a tunnel from Coburn Hall, a distance of 150 feet. This present line is in bad shape and there are a number of leaks in the couplings. A tunnel might be constructed from Fernald Pit No. 1 to Alumni Hall Pit and from there to Alumni Hall. This line has some very bad leaks in it, and will have to be taken up. We suggest that you continue the present tunnel from the railroad tracks across the street to the power house,—the steam lines now being in conduit.

A thermometer should be placed on the return line in the power house just before this line enters your receiver, so that you can determine at any time the temperature of the return water. The principal part of your piping used on the underground system is steel. This should be replaced as rapidly as possible with genuine wrought iron.

There is a question as to what has caused so many leaks in the couplings of your present underground piping. It is our opinion that it is due largely to the fact that steel pipe was used. Your Supt. of Buildings is to send us a few of the couplings that were taken out and we will deliver them to the Massachusetts Institute of Technology and endeavor to get a report for your consideration. It is the opinion of some of your representatives that this trouble might be caused by electrolysis. If true, it should be prevented of course, if possible.

In reference to the probable cost of the contemplated changes, an amount approximating \$4,000. should be expended for additional insulation for pipes and other surfaces, now bare. The cost of the tunnels could be better determined by your Supt. of Buildings, also the number of lineal feet required, including the piping.

In tunnel construction the side walls should be 16" wide at the bottom, 12" at the top, with a 6" concrete floor and 8" concrete ceiling re-inforced, and unless it is your wish to use the top of the tunnels for walks, making them flush with the ground, we would advise placing the concrete ceiling anywhere from 10 to 12" below the surface.

We appreciate your request for this report and if there is any additional information required, do not hesitate to call on us.

Yours very truly,

JOHNS-MANVILLE INC. of Mass.

Jos. H. Walsh,

Assistant Manager

Orono, Maine, June 12th, 1922

Col. F. H. Strickland,
President, Board of Trustees,
University of Maine,
Campus.

My dear Col. Strickland:

Complying with your request, I have asked our superintendent of grounds to make a measurement of proposed tunnel construction. He has done this and submits the following report:

From end of old tunnel to Power Plant	62 ft.
From old tunnel in front of Coburn Hall to Coburn Hall	150 ft.
From old tunnel in front of Coburn Hall to Fernald Hall Pit #1	382 ft.
From Fernald Hall Pit #2 to Alumni Pit	112 ft.
From Alumni Pit to Alumni Hall	71 ft.

This gives a total length of proposed new tunnel construction of 777 ft.

On the first page of Johns-Manville report, he suggests a unit price of \$50.00 per lineal foot for tunnel construction. This would amount to a total of \$38,850.00. I do not understand that this includes the cost and installation of piping the tunnels.

I have been over the Johns-Manville report as submitted by Mr. Walsh, with our Professor Sweetser, and we think that it is a good fair statement of the situation. Professor Sweetser suggested that we call your attention to the following items:

First: He questions whether or not the drip mains have a proper slope so that they function as they should. It is entirely possible that they do, but he thought the matter should be looked into.

Second: In regard to the possible electrolysis mentioned as a possible reason for the breaking down of the mains, it should be noted that both the telephone lines and the wireless system are grounded in Lord Hall on the same steam pipes.

Third: The regular monthly inspection of the apparatus such as traps, valves, etc., should be made and a systematic report kept.

Fourth: For a number of years Professor Sweetser has maintained that a Mechanical Engineer with training should be placed in charge of the entire system. He claims that such a man could save enough in one year to more than pay for his salary.

Very truly yours,

H. S. BOARDMAN,

Dean.

Orono, Maine, June 15th, 1922

Col. F. H. Strickland,
President, Board of Trustees,
University of Maine.

Dear Sir:

Replying to your further inquiry relative to cost of material for proposed steam line extension, I would report that based upon current price quotations from the Purchasing Agent Department, the total cost of new wrought iron pipe would be around \$2,500.00 and for asbestos covering \$988.27, making a total for the pipe and covering aside from flanges or unions of about \$3,500.00, to which should be added for the cost of labor based upon estimates by the Supt. of Buildings and Grounds of approximately \$700.00, or a total of a little in excess of Three Thousand Dollars (\$3,000.00).

Trusting that this information will meet your requirements in the matter, I remain,

Very truly yours,

H. S. BOARDMAN,

Dean.

Charles B. Breed Report on College of Technology

Boston, May 16, 1922.

To the Board of Trustees,
University of Maine,
Orono, Maine.

Gentlemen:

Complying with your directions transmitted to me by Dean Harold S. Boardman, I have made an examination of the departments of the College of Technology with respect to the adequacy both of the instruction given and of the equipment, and herewith submit the following report.

Respectfully yours,

(Signed) C. B. BREED.

Qualifications of the Writer. While it is not customary, it may be of assistance to the reader if some of the writer's experience and activities are stated.

Graduate of Massachusetts Institute of Technology, 1897, in Civil Engineering,

Taught Surveying, Railway Engineering, Highway Engineering, at Mass. Inst. of Technology for 23 years; now Professor of Railway and Highway Engineering, in charge of transportation subjects taught at M. I. T.

Joint author of "Principles and Practice of Surveying."

Associate Editor of "American Civil Engineers' Pocket Book."

Associate Editor of "Mining Engineers' Handbook."

Member of about fifteen engineering societies; has been an officer in some of them.

In private practice as Consulting Engineer, with office in Boston, for past 16 years. Has employed graduates from most of the New England and Middle States colleges.

Present activities:

President, Back Bay National Bank, Boston;

Director, Metropolitan Trust Co., Boston;

Trustee, Five Cents Savings Bank, Lynn, Mass.;

Vice President, Fidelity Capital Corp., Boston;

First Vice President and Chairman of Executive Committee of Boston City Club.

Directions. Dean Boardman directed me to assume that it is the aim of the College of Technology to give the courses set forth in the Catalog (1921-1922) with a degree of proficiency at least as good as that attained at other technical schools in the country of similar size and environment, and to assume also that each member of the teaching staff is personally qualified to properly teach the subjects assigned to him.

With this premise, I was requested to give an opinion

1st. As to the adequacy of the instructing staff.

2nd. As to the adequacy of the equipment.

3rd. As to the reasonableness of the Budget Estimate for the year 1922-23 for each department.

Examination Made. I made a careful examination of statements prepared in detail by each teacher giving the courses he teaches, the number of classes, character of work (classroom or laboratory), number of students, and administrative and other duties he performs.

The Budget Estimate (1922-1923) for each department in detail was examined.

One and a half days was spent in personal conferences with the heads of each department, and in some cases with other members of the instructing staff. In these conferences we discussed the methods in vogue of giving instruction, use of present equipment, need of additional equipment, necessity for each item of importance in the budget, and advisability in many cases of revision of duties of members of the instructing staff. All of the laboratories and equipment was inspected.

CONCLUSIONS IN BRIEF.

Chemistry and Chemical Engineering courses require one additional professor and one additional instructor. It is fairly well equipped, except that the special course in Pulp and Paper requires a cylinder pulp and paper machine to complete the train of the processes of paper manufacture; and also considerable more floor space is required for this specialty.

Mechanical Engineering courses require one additional instructor and a very considerable improvement and extension of equipment and floor space. This department is housed in totally inadequate quarters. Much of its limited equipment is obsolete. Its steam power is wholly inadequate. The wood-working and forging rooms are adequate. The machine shop is well equipped in character of machines, but better instruction could be given if additional machines are acquired.

Electrical Engineering courses require one additional professor and one additional instructor. Its equipment is in good condition and adequate except that there is practically no special detection and measuring apparatus, which should be acquired.

Civil Engineering courses require one or two additional instructors. The equipment in general is adequate. That so much of the field instruction is given by student teachers is unfortunate. Larger drawing room space is required.

Engineering Drawing courses require one additional full-time instructor. At present classes of 40 are handled by one teacher; these are too large, though fairly good work can be done by good teachers even under these conditions.

COMMENTS AND RECOMMENDATIONS IN DETAIL

CHEMISTRY AND CHEMICAL ENGINEERING.

Staff. The head of this department, Prof. Brautecht, is carrying too many hours of classwork; about a third of his classwork should be delegated to others. Another man of professorial grade is needed to teach Mineralogy, Qualitative Analysis, and General Chemistry. The instruction in this department can be much improved if another teacher of instructor grade is procured to relieve Mr. Purdy, Mr. Crombie and Mr. Louria of part of their classroom work and laboratory; Mr. Purdy is especially overloaded with work at the present time. The storeroom should be in charge of one full-time employee rather than several students; a capable woman could fill this position.

Equipment. The equipment is fairly satisfactory. An electric drying oven should be installed in all laboratories where analytical work is done. A motor-generator is required for use of D. C. current at all times; the only source for this current at present is from the Physics department, and then only when that department may not happen to be using the current. This condition greatly handicaps certain work of the Chemistry department. Since the most probable place for a fire to originate is in a chemical laboratory, it is advisable to equip them with additional fire extinguishers.

The University aims to specialize in the science of Pulp and Paper manufacture in the Chemical Engineering course. Because of the prominence of this industry in Maine, this course is plainly an appropriate option for this institution to encourage. It should be developed into the best course of its kind in the country, and this can be done by extending the space allotted to it, by acquiring a cylinder pulp and paper machine and by putting the instructor (Mr. Wilkins) on full time. The University just falls short at the present time of making this course one of real advertising value to the State of Maine.

MECHANICAL ENGINEERING

Staff. Both Prof. Sweetser and Prof. Kent are carrying too much work. Another instructor should be added to this department, to teach, especially in the drafting and design courses, and to do the problem work for Prof. Sweetser's and Prof. Kent's courses. The problem work in mechanical engineering is very important, and if properly done requires a great deal of the teachers' time. If improperly done, the course is materially weakened. It is not being adequately accomplished at present owing to lack of teachers.

Equipment. The forging and wood-working laboratories are well equipped. The machine shop is well equipped, but the number of machines is limited. If six additional lathes and a milling machine are acquired and placed in the same shop, sections of 20 men can be handled; this equipment is needed.

The mechanical engineering laboratory is wholly inadequate. There are a few machines that are up to date and in good condition. The space allotted to such a laboratory is far too small. Before this laboratory can be put upon a footing even fairly comparable with the other laboratories of the College of Technology, many thousand dollars will have to be spent for a power plant and a considerable number of machines.

The maximum steam pressure available today is but 60 to 70 pounds. This pressure is wholly inadequate for performing many of the usual engine tests which form an important part of any satisfactory course in mechanical engineering. On account of this low steam pressure, the value of much of the present machinery for teaching purposes is lost. A new power plant carrying 125 to 150 lbs. pressure, with a superheater, is required at the start before new equipment will be of much real instruction value. The exhaust steam of such a plant can be used to heat the buildings.

Some of the items of equipment needed are additional testing machines, a steam engine of the flywheel governor type, reaction turbine, compound engine to drive compound air compressor, condenser, dynamometer, Diesel or semi-Diesel engine, compound air compressor, blower, pressure air tank, air meter, impulse wheel, large measuring tanks and weirs, small water wheel and apparatus for control and testing, flume and standpipe.

There is practically no hydraulic laboratory at the institution. This should be a part of the mechanical engineering laboratory. In a state like Maine, having immense potential water power, it seems unusual to find a College of Technology with no hydraulic laboratory. It would seem logical to expect to find at the University of Maine a well equipped Hydro-Electric course.

These suggestions obviously involve a new building and power plant, and until this is an accomplished fact, it is difficult to see how the mechanical engineering laboratory can be anything but a makeshift.

Even under these existing conditions the number of students in this course is increasing which is certainly favorable evidence for the instructing staff of this department.

ELECTRICAL ENGINEERING

Staff. Professor Barrows, Professor Hill and Mr. Creamer are all carrying more classroom work than is profitable. There is need of two additional teachers in this department. Under the present conditions, thorough instruction in problem and report work cannot be given, especially if it is expected that the teaching staff will progress with the profession.

Equipment. The laboratory space is cramped, both in the main laboratory and in the attic rooms now being used for telephony. If the mechanical engineering laboratory can be located elsewhere, that room could then be given over to the electrical department, thereby providing adequate floor space.

The equipment needed consists principally of special electric equipment, such as an oscillograph, induction regulator, constant current transformer, power factor meters, radio equipment, telephone equipment. A total expenditure of \$10,000 would well equip this department.

CIVIL ENGINEERING

Staff. Dean Boardman can properly delegate the teaching of Graphical Statistics to some member of the Civil Engineering staff, as the time he devoted to that short course can be spent to better advantage to the College of Technology. Professor Leavitt, who is supposed to be teaching only half time, is carrying practically a full-time load, besides serving as tester of highway materials for the State of Maine. He should be relieved of all instruction in Surveying Fieldwork and of some of his other laboratory instruction work. He is the only teacher at the institution who is specializing in Highway Engineering and he should therefore be encouraged to progress in that important branch of engineering. This particular field is developing so rapidly that it is impossible for any man to keep apace with it who does not have ample time to cover the voluminous literature that is published almost daily. There is probably no branch of engineering that is so unexplored and of such timely importance as Highway Engineering. The University may well consider extending the development of this branch of the Civil Engineering course. The appropriations of public funds available in the United States for highway construction in 1922 amount to over a billion dollars. One additional instructor is required to relieve Professor Leavitt and to develop along with him in Highway Engineering subjects.

The problem of giving instruction in Surveying Fieldwork to 120 students per week in the fall and spring with the limited staff in this department, is a real one. The services of the 6 to 8 additional teachers required during these relatively short periods now involve the employment of student-instructors, which at best is unfortunate. Under the conditions existing at the University, I see no satisfactory solution of this problem.

The same condition is present at the Mass. Institute of Technology. That institution uses no student assistants in the teaching of Surveying Fieldwork. In the Civil Engineering Department of Technology there are employed about 10 Assistants (corresponding to instructors at University of Maine) who are recent graduates. During the winter months these men are kept busy correcting problems and drawings and preparing data for the classroom work of the professors. To each professor is assigned one or two of these men. These assistants also prepare resumes of articles in current engineering literature under the direction of the professor to whom they may report. In this way the assistants have the time of the professors and at the same time are developing their own knowledge along engineering matters.

A similar use of two or three additional full-time instructors in the Civil Engineering course at the University of Maine should improve the quality of all of the courses given by the professors.

Equipment. The equipment of this course is satisfactory.

The drafting room space is limited. Rooms 27 and 23, Wingate Hall, should be combined into one large drafting room at cost, including new drawing tables, of about \$2500. At the present time the Sophomore Class in C. E. Drawing has to meet in two or three in two or three separate rooms and during parts of the session there is no teacher in the room; instructions given have to be repeated from room to room; the result is inefficient work.

Engineering Drawing.

The classes are rather large to handle with the staff available. Another full-time instructor should be employed to replace student instruction. This department is well equipped. An electrical blueprinting machine of modern design would be of considerable service not only to this department but to the University as a whole.

Budget Estimate for 1922-23 for all of the departments are limited to practically bare necessities. These estimates give little evidence of progress. If the College of Technology is to be held down to these appropriations it cannot progress. It is merely marking time while the technical world passes by and leaves it behind the procession.

General Criticism.

The University need not apologize for the work that the College of Technology is doing considering the number of teachers upon its staff and the equipment available.

On account of limited funds, the educational value of the instruction given is not greater than 60 per cent of what it could be if the appropriations were adequate. Except for the Mechanical Engineering course, which requires an entire building and equipment (totalling \$200,000 to \$300,000), this college could be brought up to a proper standard by the expenditure of about \$40,000 for equipment.

This \$40,000 for equipment should be distributed as follows:

Electrical Engineering Department.....	\$10,000.
Chemistry and Chemical Engineering Dept.....	20,000.
Civil Engineering Department.....	7,000.
Engineering Drawing.....	2,000.
Administration	1,000.

The College of Technology could then be suitably maintained if the yearly appropriation for running expenses, including salaries, were increased about 20 per cent over the estimates for 1922-23.

Buildings.

The school rooms can be greatly improved by repairs and painting obviously needed. Most of the rooms are dingy. Cleaning and repainting would do much to improve the spirit of the students and teachers.

Assignment of Class.

If the classes in some of the subjects are rearranged so as to come in afternoon hours, the laboratories can be used to better advantage than at present. Many of the laboratories are practically vacant in the forenoon hours on account of the unfortunate custom of giving certain classroom subjects only in the morning hours.

Applied Science Teaching.

The teaching of applied sciences is a very different problem from the teaching of mathematics, languages or a pure science like physics.

Applied science is constantly changing and developing and requires incessant reading and study to keep abreast with its progress. A teacher of languages or mathematics may give little time to the study of his subject outside of the classroom and still be a successful teacher for many years; but a teacher of applied science who does not keep up with the progress of the world in his particular profession will soon be left behind. Similarly, any institution that lays claim to the teaching of applied science that loads its teachers in these branches with classroom work to such an extent that they are unable to keep abreast of their respective educational professions, will surely fall behind the more progressive educational institutions. The leading minds in any technical college should not only be given ample opportunity, but should be required to progress in their respective professions. The institution that fails to recognize that this fundamental fact has far-reaching educational significance will find that it has been marking time and the procession has passed by.

The writer has not given much weight to the so-called "credit hours" of the teaching staff, because he feels that they have less bearing upon the load, a teacher is actually carrying than the characteristics of the subjects he is teaching and the position he is occupying. For example, the head of a department like Chemistry and Chemical Engineering ought not to be carrying the number of credit hours that the head of the department of Engineering Drawing carries, because the former should be spending a much larger proportion of his time keeping up with the progress of his rapidly developing profession.

The status of the College of Technology as I view it today is this; it is not actually marking time, but it certainly is not progressing at the proper rate, because of lack of funds. The Budget Estimate is far too meagre.

The salaries paid are not attractive to the best men of the country. One reason for this is the fact that a teacher of applied sciences at the University of Maine finds himself located far away from the industrial centers where he might otherwise practice his profession, or at least better observe its progress. At the Massachusetts Institute of Technology, at Tufts College, Columbia, Armour, Carnegie or Stevens the teachers of applied science are close to industrial centers where they can and do carry on a consulting practice in their profession, thereby keeping abreast of the times and receiving a greater compensation from their profession. The writer's schedule of classes at the Massachusetts Institute of Technology

is as follows: 1st term, 9 hours per week of recitation; 2nd term, 7 hours recitation and 4 hours design; 3rd term, 6 hours recitations and 2 hours lecture. The heads of departments of technical colleges of this grade receive from \$4000 to \$6000 salary and time for outside professional work.

A professor of applied science at the University of Maine not only accepts a relatively low salary but also stands good chance of dropping behind in his profession for the reasons above stated. This latter phase does not prevail in the case of the professor of mathematics or the pure science, for such teachers find their laboratory for research in the college itself, while the laboratory for research and advancement for the applied science teacher is in the steel plants of Pennsylvania, the factories near the large industrial centers, on the railroads and highways, or at the bridge sites. Applied science teachers cannot bring the things they have to study into the classroom; they have to go out to the site of the structure or of the industry itself.

To this end it is particularly advisable for an institution like the University of Maine to send its applied science professors to engineering conventions and to visit the sites of the application of their professions and to pay their expenses on such trips for the benefit of the University. This practice should not only be encouraged; it should be required of certain professors.

The custom of regularly promoting instructors to assistant professors, and so on up the line, the increase in salary and title being a fixed custom is unfortunate. It encourages young men to stay in the profession of teaching who ought to leave it and go into the practice of their profession. Even if a man is destined to become a good teacher of applied science, he should go into the world and practice it for a limited time at least. And if he is destined not to become a good teacher, he ought to be held so and given the benefit of more mature judgment than his own; to encourage such a man to stay in the College of Technology is doing him an injustice and injuring the institution.

This fixed method of promotion tends toward encouraging the mediocre teacher to remain and the natural teacher to depart. Teaching is a fine art, it is not a science or a business. A good teacher is a rare man. When such a man is found he should be encouraged to progress. A mediocre teacher may properly remain in the grade of instructor or of assistant professor and serve for many years as an assistant to the teachers of higher grade. Under such circumstances, it may even be appropriate to pay the mediocre teacher a salary comparable with that of some of the lower grade professors.

It will be advisable to encourage men who have been trained in other technical schools and now have lived in other parts of the country to enter the teaching staff, so as to prevent, as far as possible, the effect of inbreeding. It is difficult for an institution to accomplish this result, especially where the salary offered is not especially attractive.

The use of student instructors is not advocated. It tends to interfere with the college work of the student performing this teaching work. A student naturally gives less attention to a student instructor than he gives to his regular instructors. The practice indicates weakness.

Orono, Maine, June 12th, 1922

Col. F. H. Strickland,
President, Board of Trustees,
University of Maine,
Campus.

My dear Col. Strickland:

Complying with your request, I am submitting herewith a statement of the equipment requested by the heads of departments of the College of Technology for the period beginning July 1st, 1923 and ending July 1st, 1925. These items are a part of the budget estimates already submitted for that period.

I wish to call your attention to the fact that the College of Technology laboratories cannot be placed upon a suitable basis with the present buildings. This is especially true of the department of Mechanical Engineering.

Very truly yours,

H. S. BOARDMAN,

Dean.

EQUIPMENT FOR COLLEGE OF TECHNOLOGY

	1923-1924:1924-1925		
Deans Office			\$ 75.00
Chemistry Dept.	1923-1924-	\$1,177.00	
	1924-1925-	1,215.00	2,392.00
Civil Eng. Dept.	1923-1924-	1,170.00	
	1924-1925-	820.00	1,990.00
Electrical Dept.	1923-1924-	4,737.50	
	1924-1925-	4,578.75	9,316.25
Eng. Drawing Dept.	1923-1924-	1,150.00	
	1924-1925-	150.00	1,300.00
Mechanics Dept.			0.00
Mechanical Eng. Dept.	1923-1924-	24,413.00	
	1924-1925-	1,887.50	26,300.50
Total			41,373.75

ITEMS IN DETAIL

DEAN'S OFFICE.

131 (k-1) *Equipment:*

Filing Cabinet

\$ 50.00

Table

25.00

75.00

CHEMISTRY DEPARTMENT.

131	(f-1) <i>Equipment. 1923-1924.</i>	
	Tools for Maintaining Equipment	25.00
	Museum Equipment	15.00
	Electric Drying Oven	50.00
	Analytical Balance	75.00
	Platinum Ware	100.00
	Cabinet for Lecture Equipment	110.00
	Lecture Equipment	40.00
	Side Tables with Lockers	200.00
	Still or Kettle, set up	150.00
	Fire Protection Equipment	12.00
	New Paper Equipment	400.00
		<hr/>
		1,177.00
131	(f-1) <i>Equipment. 1924-1925.</i>	
	Miscellaneous Equipment	615.00
	New Paper Equipment	200.00
	New Chem. Eng. Equipment	400.00
		<hr/>
		1,215.00

CIVIL ENGINEERING DEPARTMENT.

131	(g-1) <i>Equipment. 1923-1924.</i>	
	Ro Tap Shaker with motor and sieves	350.00
	2 Dumpy Levels	220.00
	1 Transit	350.00
	Equipment for Experiment Station Research	250.00
		<hr/>
		1170.00
131	(g-1) <i>Equipment. 1924-1925.</i>	
	2 Dumpy Levels	220.00
	1 Transit	350.00
	Equipment for Experiment Station (Research)	250.00
		<hr/>
		820.00

ELECTRICAL DEPARTMENT.

131	(h-1) <i>Equipment. 1923-1924.</i>	
	1 Oscillograph	\$1,200.00
	2 Power Factor Meters List	220.00
	3 Current Transformers	195.00
	2 100 Amp. a.c. Ammeters List	64.50
	2 50 " " " "	64.50
	2 25 " " " "	62.50
	2 5 " " " "	62.50
	1 30 & 15 Volt a.c. or d.c. Volt L.	111.50
	1 150 & 300 Volt a.c. or d.c. Volt L.	111.50

	1 150 Volt a.c. Volt List	34.50
	1 0-150 Volt d.c. Volt List with 15 Volt Tap	114.00
	2 100 Amp. d.c. Ammeters List	87.50
	2 50 " " " "	84.00
	2 25 " " " "	41.25
	2 5 " " " "	82.50
	1 Portable Galvonometer for Potentiometer	20.00
	1 Frequency Meter	143.00
	1 150-300 Volt 50 and 100 Amp. Wattmeter Model 310, Weston List	123.75
	Stereoptician	150.00
	3 A. C. Regulators	150.00
131	(h-1) <i>Radio Receiving Equipment.</i>	
	6 Vacuum Tubes	40.00
	3 Amplifying Transforms	20.00
	2 Output Transforms	20.00
	2 Head Sets, W.E.	30.00
	Wave Meter	30.00
	6 Rheostats	10.00
	Loud Speakers	150.00
	Storage Battery	100.00
131	(h-1) <i>Telephone Apparatus.</i>	
	Microammeter & Thermo Couple	145.00
	Telephone Transformers	35.00
	Oscillator	200.00
	Milliammeter	100.00
	Vacuum Tube Voltmeter	200.00
	Telephone Sets	75.00
	Wire	30.00
	Switches	30.00
	Variable Inductor	150.00
	Variable Condenser	150.00
	Galvanometer-Electrodynamometer	100.00
		<hr/>
		4,737.50
131	(h-1) <i>Equipment. 1924-1925.</i>	
	1 75-150 Volt. 25 amp. Wattmeter Model 310, Weston List	123.75
	2 Tachometers	100.00
	1 Slipp Meter	90.00
	1 Induction Regulator	1,000.00
	1 Constant Current Trans.	1,100.00
	1 Artificial Trans. Line	150.00
	1 Induction Motor	250.00
	2 Condenser Boxes 51 mfgs.	150.00
	2 5-Kw. Transformers	150.00
	1 10 ohm 10 amp. Field Rheostat	15.00

Radio Phone Transmitter for Student Experience and Broadcasting 4-power Tubes (250w)	440.00
Transformers	100.00
Meters	150.00
2 Amplifying Tubes	60.00
Miscellaneous Equipment and Installation	200.00
Telephone Switchboard	500.00
	<hr/>
	4,578.75

ENGINEERING DRAWING DEPT.

131 (L-1) <i>Equipment. 1923-1924.</i>	
Up-to-date Blueprinting equipment	1,000.00
Annual replacement of Drawing Boards and Tee Squares	150.00
	<hr/>
	1,150.00
131 (L-1) <i>Equipment. 1924-1925.</i>	
Annual replacement of Drawing Boards and Tee Squares	150.00
	<hr/>
	150.00

MECHANICS.

131 (j-1) <i>Equipment.</i>	0.00
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MECHANICAL ENGINEERING.

131 (i-1) <i>Equipment. 1923-1924.</i>	
Impact Machine	300.00
Fatigue Machine	3,500.00
Turbo-generator set	2,500.00
Boiler with superheater	2,200.00
Test Plate	300.00
Compound Steam engine driving air compressor	2,500.00
Motor to drive	350.00
Diesel gas engine	1,000.00
Electric dynamometer	3,400.00
Pelton type water wheel	300.00
Reaction water wheel	300.00
Pressure tank or stand pipe	1,000.00
Measuring tanks	800.00
Condenser & pump	450.00
Canals & Weir boxes	300.00
Hydraulic Testing flume	500.00
1 24" Swing 8 ft. bed lathe equipped with 16" chuck	650.00
1 12" swing 5 ft. bed equipped with 10" chuck and taper attachment	600.00

1 12" swing 5 ft. bed equipped with 10" chuck and motor driver	800.00
4 12" swing 5 ft. bed equipped with 10" chuck	1,800.00
1 Upright sensitive drill equipped with century attachment	300.00
1 12 H motor to drive above	300.00
6 5" O.S. spring calipers	4.80
6 5" I.S. spring calipers	4.80
6 8" O.S. spring calipers	6.00
9 4" humophiodite calipers	2.00
6 1" Micrometer calipers	39.00
6 8" Micrometer calipers	13.00
6 60° Gauges	2.10
12 6" monkey wrenches	10.00
7 ½" Bent tail lathe dogs	3.50
7 ¾" " " " "	4.20
7 1" " " " "	4.90
7 2" " " " "	8.40
8 #1s Armstrong Tool holders	17.20
6 Size B O.K. tool holders	12.00
6 Sets hand forged lathe tools	25.60
6 Sets tool bits for Size B O.K. holder	18.00
Drills	6.00
Taps	12.00
Hack Saw Blades	12.00
Countersinks	4.50
Reamers	15.00
Tool bits	20.00
Emery wheels	3.00
Miscellaneous small tools	15.00

24,413.00

131 (i-1) <i>Equipment, 1924-1925.</i>	
Electrical furnace for heat treatment of metals	1,800.00
Drills	6.00
Taps	12.00
Hack Saw Blades	12.00
Countersinks	4.50
Reamers	15.00
Tool bits	20.00
Emery Wheels	3.00
Miscellaneous small tools	15.00

1,887.50

Orono, Maine, June 9, 1922.

Hon. Frederick H. Strickland,
President, Board of Trustees,
Orono, Maine.

Dear Sir:

Complying with your request, I submit herewith a list of equipment, itemized so far as practicable, needed by the several departments in the College of Agriculture for the two year period beginning July 1, 1923 and ending June 30, 1925.

In submitting this report I desire to direct your attention specifically to the following:

1. The items of equipment named in the attached list include only such equipment as can be used to advantage in the laboratories for which space is now provided and does not include items of equipment which should be purchased as soon as proper buildings and laboratory space can be provided. The estimated costs of equipment are based on present prices.

I am assured by the several departments that if the equipment included in the lists attached are provided, they will then be well equipped for conducting educational work in their respective lines so far as present available laboratory space will permit.

2. It should not be assumed that this equipment would satisfy the needs of the college for a period of years following 1925. Each year thereafter a substantial amount will be needed to replace worn out and out-of-date equipment with modern improved machines and apparatus.

Courses of instruction in agriculture, horticulture and home economics deal with the application of the three great fundamental sciences to these subjects. The progress being made in the field of applied sciences in relation to agriculture, horticulture and home economics is rapid and continuous. Many pieces of equipment up-to-date ten years ago are now practically obsolete and fit only for the junk heap so far as use in a modern educational plant is concerned.

3. Reference has been made incidently to the need of additional laboratory space. Perhaps this phase of the situation should be briefly enlarged upon, but not however with the thought that the situation can be remedied at the present time, or even within several years.

The present dairy building was erected many years ago. At the time it was built it undoubtedly filled the needs of the college in a perfectly satisfactory manner, but under present conditions it is wholly inadequate either from the standpoint of size or construction.

The Department of Horticulture has very poor laboratory accommodations. When new greenhouses are erected either a "head" house of sufficient size and adaptability to provide satisfactory indoor laboratories for this department should be constructed, or an additional building for that purpose will be needed.

The Department of Agronomy is without laboratory accommodations for the proper teaching of farm mechanics and farm machinery. It is important that this deficiency should be supplied as soon as possible.

These represent some of the outstanding needs of the college and have been enumerated merely to explain more fully the statement made in the first part of this report, "that if the equipment included in the lists attached are provided, they will then be well equipped for conducting educational work in their respective lines so far as present available laboratory space will permit."

Respectfully submitted,

LEON S. MERRILL,

Dean.

COLLEGE OF AGRICULTURE

SUMMARY

Cost of equipment needed in the several departments of the College of Agriculture for the years 1923-24 and 1924-25, based on present prices as near as can be determined.

Dean's Office	\$ 245.00
Agronomy	2,425.00
Animal Industry	16,564.91
Agricultural Education	200.00
Bacteriology	1,325.80
Biological and Agricultural Chemistry	157.00
Home Economics	765.00
Horticulture	2,504.50
Total	<u>\$24,187.21</u>

COLLEGE OF AGRICULTURE

Detailed statement of equipment needed in the several departments of the College of Agriculture for the years 1923-24 and 1924-25 with estimated cost of same based on present prices as near as can be determined.

OFFICE OF DEAN

1 Transophone	\$180.00	
1 Typewriter	65.00	\$245.00

Note: Above figures represent estimated net cost after deducting value of old machines allowed in exchange.

AGRONOMY

(a) Laboratories

Bourne Sampler (grain)	\$ 20.00
Sampling and Testing Outfit (grain)	20.00

Working parts of gas engines and machinery	300.00	
	<hr/>	
		\$340.00
(b) Farm		
1 Grain Drill	\$120.00	
2 Spring-tooth Harrows	40.00	
2 Spike-tooth Harrows	30.00	
1 One-horse wagon (for freight, etc.)	120.00	
1 Corn Planter (with fertilizer attachment)	75.00	
1 Hay Rake (horse)	35.00	
1 Motor (electric)	350.00	
1 Mowing Machine	60.00	
1 Disk Harrow (tractor)	135.00	
1 Manure Spreader	135.00	
1 Hay Loader	125.00	
1 Tractor	750.00	
1 Set of Double Harness	80.00	
General Equipment for Horses (Blankets, etc.)	30.00	
	<hr/>	
	\$2,085.00	\$2,425.00

Note: The machinery listed under "Farm" will be needed to replace that now in use.

ANIMAL INDUSTRY

(a) Laboratories	
Brine Ice Cream Freezer, 40 qt.	\$875.00
Ice Cream Batch Mixer, glass lined, 100 gal. tank	400.00
Centrifugal Emulsor	700.00
Milk Pump	46.00
2½-Ton Ammonia Compressor	675.00
Brine Tank and Coils	300.00
Rebuilt Refrigerator	800.00
No. 6 Simplex Churn	500.00
Butter Tub Parafiner	90.00
Cheese Parafining Tank	28.60
Continuous Pressure Cheese Press—Combi- nation Young American & Cheddar	135.00
Gelatine Kettle	60.00
Flask Pasteurizer	350.00
Chilly King Cooler	230.00
Set Platform Scales	45.00
11 doz. 5-gal. Milk Cans @ \$45.60	501.60
2 doz. 10-gal. Milk Cans @ 58.20	116.40

1 gross Skim Milk Test Bottles	84.00
Miscellaneous Lab. Glassware	80.00
10 H. P. Vertical Boiler	386.00
Can Rinser & Sterilizer	100.00
Can and Bottle Sterilizer	200.00
Miscellaneous small utensils for butter, ice cream and cheesemaking	90.00
6 Milk Strainers @ \$5.25	31.50
10 5-gal. Ice Cream Cans @ \$3.05	30.50
12 4 " " " " @ 2.59	31.08
18 3 " " " " @ 2.30	41.40
18 2 " " " " @ 1.82	32.76
20 1 " " " " @ 1.45	29.00
10 5 " " " Tubs @ 5.10	51.00
10 4 " " " " @ 4.25	42.50
12 3 " " " " @ 3.40	40.80
12 2 " " " " @ 2.81	33.72
15 1 " " " " @ 1.85	27.45
3 gross 8% Milk Test Bottles @ 27.00	81.00
3 " 10% " " " @ 27.00	81.00
4 Colony Houses	400.00
2 Incubators @ \$50	100.00
4 Brooders @ \$40	160.00
New Feed Hoppers	60.00
Minor Equipment	200.00
4 Milk Strainers @ \$5	20.00
In the Bottle Pasteurizing Outfit	500.00
Majonnier Testing	1,500.00
Overrun Tester for Ice Cream	325.00
Continuous Concentrator	2,000.00
Steam Turbine Babcock Tester 36 9-in. Bottles	95.00
6 small motor driven Babcock Testers 12 9-in. Bottles @ 80	480.00
100-gal. Weigh Tank	40.00
Surface Tubular Cooler (2000# capacity)	265.00
Cheese Curd Mill	25.00
2 gross Sample Bottles @ 14	28.00
2 " 9 gm. 50% 6" Test Bots. @ 42	84.00
2 " 9 " 50% 9" " " @ 42	84.00
2 " 18 " 30% 6" " " @ 40.80	81.60
2 " 18 " 30% 9" " " @ 42	84.00
2 " 18 " 55% 9" " " @ 42	84.00
4 " 8% " " @ 27	108.00
4 " 10% " " @ 27	108.00
1 " 17.5 c.c. Acid Measures	12.00
1 " 17.6 c.c. Milk Pipets	30.00
1/2 " 220° F. Thermometers	45.00

4 Automatic Acid Measures @ 3	12.00
6 4-bottle Cream Test Scales @ 23	138.00
Chemical Laboratory Balance	150.00

 \$14,564.91

(b) Live Stock Division

Pure bred males, cattle, swine, sheep, poultry; tie-up and miscellaneous equipment	\$2,000.00
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 Total \$16,564.91

AGRICULTURAL EDUCATION

Equipment for making charts	\$ 25.00
Equipment for preparing illustrative material	25.00
Lantern slides	150.00

 Total \$ 200.00

BIOLOGICAL AND AGRICULTURAL CHEMISTRY

Electric Furnace	\$ 77.00
Platinum or Palau Ware	80.00
Total	\$ 157.00

BACTERIOLOGY

1 Large Incubator	\$500.00
1 Objective 1.9 mm.	42.00
1 Centrifuge	35.00
1 Binocular eye piece	45.00
1 Microscope, complete	140.00
1 Demonstration Binocular Microscope	250.00
½ doz. Cover Glass Forceps	6.00
½ doz. Thermometers	7.80
Insulating of a low temperature culture closet and heating and temperature regulating equipment	300.00

 Total \$ 1,325.80

HOME ECONOMICS

(a) Laboratories

Thermometers	\$ 10.00
Replacing foods laboratory equipment	125.00
1 Electric Iron	5.00
Repairs on Sewing Machine	25.00
Lantern Slides in Sanitation and House	

Furnishing	50.00	
1 Microscope	75.00	
		\$290.00
(b) Practice House		
Electric Dish Washer	\$125.00	
Electric Washing Machine	155.00	
To replace:		
Linen	70.00	
Dishes	50.00	
Cooking Utensils	40.00	
Oil Stove	35.00	
	\$475.00	
Total		\$ 765.00

HORTICULTURE

(a) Orchard	
Trees	\$ 65.00
Pruning Clippers	24.00
Pruning Saws	20.00
Laboratory kettles, pails, scales, dippers, etc.	20.00
Orchard dusting machine	350.00
Spray pump	30.00
Spray apparatus, parts	16.00
Glassware for laboratories	10.00
Orchard cultivators	50.00
Picking baskets	16.00
Picking ladders	30.00
Picking bags	12.00
Apple barrels	150.00
Apple baskets	24.00
Apple boxes	30.00
Packing tables	16.00
Hammer and hatchets	12.00
Barrel presses	5.00
Stencils and brushes	7.50
By-product machinery (stove, kettles press, evaporator, etc.)	200.00
2 axes	5.00
Sundries	50.00
(b) Greenhouse	
Glass	30.00
Putty	5.20
Flower Pots	30.00
Hand tools for bench work	20.00
Wrenches and repair kits	50.00

	Hammers and tools	30.00
	Wheel barrow (2) (steel)	14.00
	Plants	650.00
	Furniture	70.00
	Sundries	80.00
(c)	Garden	
	Wheel hoes (two)	24.00
	Garden tools	40.00
	Tractor parts	50.00
	Hot bed sash glass	20.00
	Wheel barrow	17.00
(d)	Small Fruits	
	Hand Pruners	13.00
	Hedge Clippers	24.00
	Plants	100.00
	Forks (two)	5.00
(e)	Miscellaneous	
	Chemicals for class work	40.00
	Glassware	30.00
	Lantern Slides	20.00
Total		<hr/> \$2,504.50

June 12, 1922.

Colonel F. H. Strickland,
President of the Board of Trustees
of the University of Maine

Dear Colonel Strickland:

I am submitting the following statements in connection with the budget estimates which I have made for the fiscal year July 1, 1923 to July 1, 1924. A like sum is asked for the fiscal year July 1, 1924 to July 1, 1925. The College of Arts and Sciences depends less upon material equipment than the other two colleges of the university. Our most pressing needs at present are suitable quarters for recitation rooms and books for the library. There are, however, five departments which call for equipment as follows:

1. BIOLOGY

This department asks for \$2356. During recent years its growth has been almost at a standstill so far as teaching apparatus is concerned. Last year Professor Chrysler reports that the amount appropriated was not sufficient even to pay for the materials used by the students in the laboratory. The amount asked for will by no means provide all that the department ought to have but it will enable it to secure a number of necessary articles which should be found in every biological laboratory.

2. MATHEMATICS.

This department includes work in astronomy and for a number of years it has asked for equipment in this course. The sum of \$761 will provide the department with three or four instruments which seem to be necessary for the work of students in astronomy.

3. MUSIC.

Since the organization of this department Mr. Sprague has done excellent work and his courses have given good satisfaction. He asks for \$450. to provide the department with necessary teaching equipment.

4. PHYSICS.

This department has had a very meagre annual appropriation for a number of years. I believe it is a fact that some of the high schools in Maine have a more expensive equipment in this subject than the state University. The growth of modern physics is so rapid that it is only fair that our students should come in contact with modern apparatus which is the only method by which they can obtain an accurate knowledge of the subject. We are especially weak in class room demonstration apparatus. Much that we have on our shelves is antiquated and should be destroyed or replaced. The department is asking for \$1000 for this purpose. The remainder of the total appropriation asked for—\$3550—will be devoted largely to the equipment of our courses in electrical measurements. These are fundamental courses taken by electrical engineers and students in chemistry and upon these the students depend for their introduction to electrical experimentation.

5. PSYCHOLOGY.

We have been very fortunate in securing Dr. H. M. Halverson of Clark University as our professor of psychology. He is a man of broad training and he has done a large amount of original work in connection with Dr. Seashore of Iowa University and Professor Boring of Clark University. He is enthusiastic to carry on his research work. Our Department of Psychology has very little in the way of modern equipment. We have asked for the small sum of \$500 for this purpose. When the College of Arts and Sciences has proper quarters for class and laboratory work I believe we would be justified in asking for a much larger sum for psychology. At present the work is carried on in a room in Wingate Hall which I understand will be required for the College of Technology in a short time. The following summary shows the equipment asked for in these five departments and the others in this college.

Yours truly,

(Signed) JAMES S. STEVENS.

DEAN'S OFFICE AND PHYSICS

50 Laboratory Stools	100.00
Cases for notebooks	50.00
Repairing and replacing storage battery	500.00
Recording barometer	50.00
2 Micro-ammeters	200.00
Oscillograph	300.00
Inductometer	150.00
2 Condensers	100.00
Vacuum tubes and access.	100.00
Thermocouple	50.00
8 Rheostats	100.00
Clock for pendulum work	100.00
Projection lantern	150.00
Ammeters	250.00
Voltmeters	250.00
Power Transformer	75.00
Office desks and chairs	25.00
*Lecture demonstration apparatus	1,000.00
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Total	3,550.00

*Note. This is the weakest feature of the Department of Physics. Our lecture demonstration apparatus is antiquated. Circulars describing new pieces of apparatus are issued at frequent intervals. It is, therefore, impossible to predict in advance what should be bought for the department. One thousand dollars a year for two years will give the department a reasonably satisfactory collection of classroom demonstration apparatus.

MATHEMATICS

Mathematical models	
Plaster models	15.00
Card models	6.00
Transit Instrument	250.00
Sextant	150.00
Artificial horizon	40.00
Monroe Calculating machine	300.00
<hr/>	
Total	761.00

ENGLISH

1 Typewriter & Desk	125.00
1 Instructor's Desk	20.00
2 Desk Chairs	30.00
Subscriptions to Newspapers (Journalism)	50.00

Theme Rack (Room 6)	10.00
6 Notice Boards (Cork)	5.00
2 Dictionary Stands	10.00
Classroom Pictures	5.00
Maps	10.00
Lantern Slides	10.00
Dictionaries & Reference Works for Dept. Lib.	25.00
Total	300.00

SPANISH AND ITALIAN

Office table	7.00
Department reference books	25.00
Total	32.00

FRENCH

3 Office chairs	20.00
1 Desk	10.00
3 Maps	30.00
3 sets wall pictures	10.00
Total	70.00

*ANCIENT HISTORY AND ART

Maps	50.00
Photographs (art courses)	150.00
Total	200.00

*Note: This department has had no appropriation for twelve years.

GERMAN

2 Desks	20.00
2 Office chairs	10.00
Total	30.00

HISTORY

Maps	75.00
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LATIN

Photographs	25.00
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BIOLOGY

Microscope for research and photography	350.00
Refrigerator for Physiology, Entomology	75.00
Reflecting Lantern	250.00
Zoological Charts	250.00
Demonstration Eye-piece	30.00
Models: pig embryos	40.00
trout embryos	35.00
Physiological Apparatus, miscellaneous	50.00
Microscope Lamp	15.00
Auxilliary Condenser	10.00
Microscope Lamp, 6v. 24 watt	24.00
Micro. slide rings, glass	12.00
Adjustable Micro. Lamp	45.00
Micro-tessar Objective, 72 mm.	44.00
2 Injecting Syringes	18.00
Portable Blackboard	10.00
Anatomical Models—9	100.00
Skeletons, Misc.	50.00
Anemometer (interior)	48.00
	<hr/>
Total	1,456.00

ECONOMICS AND SOCIOLOGY

Desks and chairs for accounting department	750.00
5 Typewriters	250.00
	<hr/>
Total	1,000.00

EDUCATION

Book shelves	25.00
Table and chairs	50.00
Reference books	13.00
Filing cases	25.00
Maps	25.00
	<hr/>
Total	138.00

MUSIC

Talking machine	50.00
Disks	100.00
Player rolls	100.00
Scores	150.00
Filing cabinet	50.00
	<hr/>
Total	450.00

PSYCHOLOGY

Laboratory apparatus	500.00
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Note: In the absence of Dr. Halverson it would not be wise to specify this equipment. He should be given at least this amount for each of the two years.

PUBLIC SPEAKING

Office chair	5.00
Book case	50.00
Waste paper basket	1.00
	<hr/>
Total	56.00

SUMMARY BY DEPARTMENTS

Dean's Office and Physics	3,550.00
Mathematics	761.00
English	300.00
Spanish and Italian	32.00
French	70.00
Ancient History and Art	200.00
German	30.00
History	75.00
Latin	25.00
Biology	1,456.00
Economics and Sociology	1,000.00
Education	138.00
Music	450.00
Psychology	500.00
Public Speaking	56.00
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Total (July 1, 1923-July 1, 1924)	8,643.00
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Total (July 1, 1924-July 1, 1925)	8,643.00
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Total for the two years	17,286.00
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Orono, Maine
September 20, 1922

The Board of Trustees
University of Maine.

Gentlemen:

In making out my estimate for the College of Arts and Sciences for 1923-1925 I estimated our needs for the first of these years to be \$8,643. This was based upon careful estimates given by the various departments. For the next year, 1924-25, we estimated the same sum but did not itemize the requests. Equipment in our college is needed chiefly for the Departments of Physics, Biology, and Psychology. In psychology we have a new

professor who will need a good appropriation for building up his department but he did not feel prepared to specify his needs so far in advance. In physics the listing of apparatus needed in 1924 and 1925 would not be practicable because of the rapid development of this science. The same is true to a certain extent in biology. We, therefore, prefer to estimate our needs as accurately as possible for 1923-24 and make the statement that a like sum would be needed for 1924-25 at which time we would be prepared to make our requests more definite.

Yours truly,

JAMES S. STEVENS.

I have audited the accounts of the University of Maine, for the year ending June 30th, 1922, and examined the schedules herein contained, as a true statement of the income, expense, assets and liabilities of this Institution, same reconciling with controls established by direction of the State Auditor.

All in accordance with Chapter 151, P. L. 1921.

Respectfully yours,

GEO. H. BANGS

Resident Auditor

To
Hon. Elbert D. Hayford,
State Auditor,
State House,
Augusta, Maine.
August 18, 1922

Report of the Treasurer of the University

To the Trustees of the University of Maine:

I hereby transmit my report.

FOR THE FISCAL YEAR ENDED JUNE 30, 1922

ASSETS AND LIABILITIES

Assets:

Cash	Schedule No. 1	\$ 73,575.97	
Accounts Receivable	" " 2	36,413.18	
Notes Receivable	" " 3	1,103.67	
Trust Funds Invested	" " 4	228,304.67	
Inventories	" " 5	326,852.39	
Plant	" " 6	731,932.96	\$1,398,182.84

Liabilities:

Accounts Payable	Schedule No. 7	\$ 47,593.34	
Notes Payable	" " 8	240,000.00	
Trust Funds	" " 4	228,304.67	
Surplus		882,284.83	\$1,398,182.84

SCHEDULE NO. 1—CASH

Cash in office		\$ 24,132.17	
Checking account	Merrill Trust Co.	4,947.16	
" "	Eastern Trust & Banking Co.	7,454.66	
" "	Old Town Trust Co.	36,005.98	
" "	" " " "		
	Uniform Account	1,036.00	\$ 73,575.97

SCHEDULE NO. 2—ACCOUNTS RECEIVABLE

Companies and Individuals—Petty Ledger	6,538.58
Experiment Station—Plant Deficiency	26,345.10
" " —Open Account	1,217.95

Summer School 1922—Expense	1,700.07	
University Inn	169.43	
Hannibal Hamlin Fire Insurance Due	4.95	
Late Receipts	187.10	
Stanley Plummer Scholarship	20.00	
Track Club Scholarship	100.00	
New York Alumni Scholarship	100.00	
Pittsburgh Alumni Scholarship	30.00	36,413.18

SCHEDULE NO. 3—NOTES RECEIVABLE

Twenty-four promissory notes, signed by present and former students given the University in settlement of tuition fees, term bills, etc., aggregating \$1,103.67

SCHEDULE NO. 4—TRUST FUNDS INVESTED AND TRUST FUNDS

Coburn Trust Fund Investment:

This represents a legacy of \$100,000.00 received by the University under the will of Hon. Abner C. Coburn, late of Skowhegan, Maine. It is invested in Registered Bonds of the State of Maine, maturing July 1, 1947, and bearing interest at 4% per annum, of the par value of \$100,000.00

United States Land Scrip Trust Fund Investment:

Under the provisions of an Act of the Congress of the United States, approved July 2, 1862, the State of Maine received two hundred and ten thousand acres of land, from the sale of which the University has received an endowment fund. This fund is represented by Registered Bonds of the State of Maine, dated June 1, 1919, due June 1, 1949, bearing interest at 5% per annum, of the par value of \$118,300.00

Nehemiah Kittredge Loan Fund Investment:

This fund was established by Nehemiah Kittredge, late of Bangor, Maine. It is under the control of the President and Treasurer of the University, and from the same loans are made to needy students in the three upper classes. It is now invested as follows:

Thirty-seven promissory notes, signed by present and former students, aggregating, exclusive of accrued interest	\$1,781.38
On deposit in Bangor Savings Bank—Book No. 45602	65.36
	<hr/>
	\$1,846.74

Kidder Scholarship Fund Investment:

The gift of Frank E. Kidder, late of Denver, Colorado, Class of 1879, providing for the award of a scholarship to a member of the junior class, selected by the President and Faculty, amounting to \$750.00

This fund is now invested in Liberty Bonds—one of \$50.00, two of \$100.00 each and one of \$500.00. Said bonds are deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Maine Cannery Association Scholarship Fund Investment:

A gift from Maine Cannery Association, of Portland, Maine, providing for scholarships of \$25.00 each \$926.35

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2285.

Eugene Hale Scholarship Fund Investment:

The gift of Mrs. Eugene Hale, of Ellsworth, Maine, providing for scholarships of \$25.00 each \$575.40

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2284.

Joseph Rider Farrington Scholarship Fund Investment:

The gift of Arthur M., Edward H., Oliver C., Horace P. and Wallace R. Farrington, all graduates of the University of Maine and sons of the late Mr. and Mrs. Joseph Rider Farrington. Mr. Farrington was Farm Superintendent and Instructor in Agriculture in 1871-1878 and Professor of Agriculture in 1878-1879. The gift, which is made as a memorial to their parents, provides for a scholarship, under conditions named by donors, and amounts to

\$1,000.00

This gift comes to the University invested in a Pacific Mills First Mortgage Gold Bond, due in 1934, bearing interest at 6%. This Bond is deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Dr. E. G. Abbott Scholarship Fund Investment:

The gift of Dr. E. G. Abbott of Portland, Maine, providing for scholarship, amounting to

\$58.04

This fund is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2343.

American Institute of Electrical Engineers Loan Fund Investment:

The gift of the U. of M. Section of the A.I.E.E. for the benefit of the three upper classes taking the electrical course, amounting to

\$111.82

It is now in form of loan to a student for	100.00
On deposit in Savings Department of the	
Old Town Trust Company Book #2646	11.82

Stanley Plummer Scholarship Fund Investment:

The gift of the late Colonel Stanley Plummer of Dexter, Maine, providing for scholarships

\$1,035.87

This fund is invested in a \$1,000.00 State of Maine War Loan Bond, due in 1937, bearing interest at 4%. This bond was purchased at a cost of \$967.65 and is deposited in Box 33 of the Orono Branch of the Old Town Trust Company. A balance of \$35.87 is on deposit in the Savings Department of the Old Town Trust Company, as per Book #2770.

Class of 1873 Prize Fund Investment:

The gift of Russell W. Eaton, a graduate of the University of Maine in the class of 1873, providing for scholarships

\$1,000.00

This fund is invested in a Liberty Bond bearing interest at $4\frac{3}{4}\%$. This bond is deposited in Box 33 of the Orono Branch of the Old Town Trust Company.

Student Union Fund Investment:

This fund is deposited in the Savings Department of the Old Town Trust Company, as per Book #2307

\$170.44

Frederick W. Hill and Marianne Hill Fund Investment:

This represents a portion of a legacy received by the University under the will of the late Frederick W. Hill of Bangor, Maine, and is temporarily deposited in the Savings Department of the Eastern Trust & Banking Co. Book #17909

\$2,530.01

SCHEDULE 5—INVENTORIES

Equipment:

Machinery and Tools for Roads and

Grounds	\$ 64.06
Shop Machinery and Tools	1,001.61
Horses, Harness, etc.	2,127.65
Farm Machinery and Tools	4,366.96
Dairy Equipment	2,824.76

Poultry House Equipment	635.47	
Cows	11,725.00	
Poultry	1,576.85	
Other Live Stock	1,049.00	
Laboratory and Class-Room Equipment:		
College of Agriculture	21,190.99	
College of Arts and Sciences	36,710.33	
College of Technology	74,096.58	
College of Law	13,550.01	
Library, Books and Equipment	83,266.95	
Military Science, Equipment	362.19	
Physical Training, Equipment	881.28	
Locker, Equipment	630.00	
University Press, Equipment	5,845.43	
Chapel Furniture and Fixtures	1,139.85	
Dormitory and Hotel Equipment	16,900.53	
Office Furniture and Fixtures	15,744.20	
Automobiles and Trucks	1,400.00	\$297,089.70

Supplies:

Administration:		
Advertising	\$	84.37
Stationery and Supplies		789.05
Maintenance of Plant and Equipment:		
Care of Buildings—Material		132.70
Material and Supplies		2,630.74
Power, Heat, Light and Water:		
Fuel		7,700.00
Supplies		679.97
College of Agriculture—Business		
Farm		
Miscellaneous Supplies		315.50
Feed		65.00
Fertilizers and Seeds		31.25
Animal Industry		
Feed		1,054.42
College of Agriculture—Education		
Agronomy		126.52

Animal Industry	383.94	
Horticulture	506.51	
Bacteriology & Veterinary Science	275.98	
Bio-Chemistry	266.04	
Home Economics	49.35	
College Extension	2,636.61	
College General	79.22	
Forestry	15.00	
College of Arts and Sciences		
Physics	61.00	
English	10.00	
Latin	18.68	
Biology	25.40	
College of Technology		
Technology	146.20	
Chemistry	2,334.23	
Civil Engineering	74.33	
Electrical Engineering	1,629.68	
Mechanical Engineering	1,141.05	
Automobiles and Trucks: Supplies	125.30	
University Inn	513.00	
Mt. Vernon House	476.74	
Commons	2,033.84	
Farm Boarding House	209.61	
Library: Stationery and Supplies	60.40	
University Press: Stock Supplies	3,067.06	
Physical Training—Expenses	14.00	\$29,762.69
		<hr/>
		\$326,852.39

SCHEDULE NO. 6—PLANT

Campus and Farm Lands	\$ 14,005.52
Office and Instruction Buildings	327,286.31
Faculty Houses	32,502.12
Dormitories	163,487.32
Carnegie Library Building	50,985.06
Power Plant Buildings	66,525.30
Dairy Buildings	3,351.10
Barns and Storage Sheds	41,055.31
Horse Barns	6,000.00

Poultry Houses and Fences	5,696.01	
Ice Houses	525.00	
Farm Buildings Unclassified	4,504.92	
Horticultural Buildings	2,500.00	
Repair Shops	3,900.57	
Printing Office	1,481.45	
Miscellaneous Structures	3,626.97	
Kappa Sigma House Equity	4,500.00	\$731,932.96

SCHEDULE NO. 7—ACCOUNTS PAYABLE

Audited Vouchers	12,923.07	
Students Accounts	2,146.17	
L. M. Stewart Fund Loan	20,000.00	
U. S. Uniform Account	1,036.00	
U. S. Government Replacement Account	168.00	
Military Deposits	70.00	
Key Deposits	171.00	
Camp Andrews Fund	3.79	
Kidder Scholarship	30.00	
Class of 1873 Prize	3.39	
Summer School Income Applicable to year ending June 30, 1923	10,331.85	
Reserve for Bad Accounts	710.07	\$47,593.34

SCHEDULE NO. 8—NOTES PAYABLE

Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	\$10,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	10,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	10,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	10,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	10,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	10,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	10,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	10,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	10,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	10,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	5,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	5,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	5,000.00
Dec. 15, '21 Merrill Trust Co., Bangor, Me. Demand	5,000.00

Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00
Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00
Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00
Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00
Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00
Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00
Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00
Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00
Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00
Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00
Dec. 15, '21	Eastern Trust & Banking Co., Bangor, Me.	Demand	10,000.00

\$240,000.00

SURPLUS AND HOW EMPLOYED

Surplus Increased \$34,663.12

Liabilities Increased:

Notes Payable	\$95,000.00	
Trust Funds	2,259.54	97,259.54

Assets Decreased:

Accounts Receivable	17,005.71		
Notes Receivable	539.86		
Inventories	34,822.44		
Plant	200.00	52,568.01	184,490.67

Assets Increased:

Cash	56,304.49	
Trust Fund Investment	2,259.54	58,564.03

Liabilities Decreased:

Accounts Payable	125,926.64	184,490.67
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Income:

State:

Maintenance Appropriation	195,000.00	
Deficiency Appropriation	22,500.00	
Revenue from U. S. Government by State Superintendent of Schools	12,941.83	
Contribution towards salary of Test- ing Engineer by State Highway Commission	1,738.75	232,180.58

Nation:

Income from Land Grant—Act of July 2, 1862	5,915.00	
Additional Endowments—Acts of Aug. 30, 1890 and Mar. 4, 1907	50,000.00	55,915.00

Students:

Tuition	163,053.71	
Special Fees for Late Registration	422.00	
Thesis Binding Fees	45.00	
Diplomas	1,050.00	
Special Examinations	158.00	164,728.71

Investments:

Coburn Trust Fund Income	4,000.00	
Rents	3,646.97	7,646.97

Dormitories and Hotel:

University Inn	15,173.18	
Mt. Vernon House	8,747.69	
Oak Hall	3,204.60	
Hannibal Hamlin Hall	5,220.28	
Balentine Hall	29,774.55	
Commons	43,417.40	
Farm Boarding House	4,384.99	
Balentine Annex	484.39	110,407.08

Income from All Other Sources:

University Press	17,344.59	
Library Fees	195.41	

Lockers	16.25	
Trucks and Automobiles	2,646.77	
Laundry	586.47	
Frederick W. Hill, Estate	3,536.66	
Sundry Sales		
Farm	7,694.43	
Animal Industry	14,504.53	
Horticulture	590.32	
Interest on Bank Deposits	3,053.92	
Contributions of Great Northern and Oxford Paper Companies for bene- fit of Chemistry Courses	1,500.00	
Summer School of 1921	10,015.77	
Miscellaneous	1.25	
Credit Inventory Adjustment	3,429.17	65,115.54
		<hr/>
		\$635,993.88

Expenses:

Administration:

Salaries of Officers	9,991.64	
Pay of Clerks and Attendants	9,343.03	
Advertising	297.07	
Stationery and Supplies	1,623.63	
Printing and Binding	10,621.29	
Interest on Floating Debt	11,436.76	
Traveling Expenses	497.63	
Telephone and Telegraph	726.09	
Miscellaneous Expenses	4,019.89	
Commencement	886.59	
Diplomas	543.77	
Experimental Work	61.32	\$50,048.71
		<hr/>

Maintenance of Plant and Equipment:

	Labor	Material
Superintendence	\$1,018.58	
Campus Grounds	3,041.90	885.16
Underground Conduits and Pipe Lines	1,542.15	160.61

Office and Instruction			
Buildings	2,143.16	554.40	
Faculty Houses	670.89	124.07	
Library	3.06		
Power Plant Buildings	19.39	23.16	
Farm Buildings—Agronomy	24.75	9.90	
Farm Buildings—Animal			
Industry	187.20	33.92	
Horticulture Buildings	690.69	115.74	
Insurance		4,395.36	
Care of Buildings	9,250.43	1,505.16	
Machinery Tools and			
Supplies	3.42	340.59	
Repair Shop Employees	478.21		
Autos and Trucks	500.69	1,046.21	
Materials and Supplies		2,748.83	
Repair Shops	20.56	11.38	
Miscellaneous Structures	54.43		
Power Plant Machinery	740.06	567.13	
President's House	705.53	158.11	
	<hr/>	<hr/>	
	\$21,095.10	\$12,679.73	33,774.83

Power, Heat, Light and Water:

	Labor	Material	
Superintendence	799.84		
Pay of Employees	6,942.05		
Fuel	2,823.14	11,575.53	
Electricity		1,935.01	
Water		1,546.01	
Supplies		286.06	
Miscellaneous Expenses		97.66	
	<hr/>	<hr/>	
	\$10,565.03	\$15,440.27	26,005.30

College of Agriculture—Business

Agronomy:

Equipment	\$ 253.12
Labor	5,475.67
Miscellaneous Supplies and Expenses	1,560.69

Feed	810.79	
Fertilizer and Seeds	388.38	\$ 8,488.65
<hr/>		
Animal Industry:		
Equipment	1,434.01	
Labor	9,840.31	
Office Supplies and Expenses	25.75	
Miscellaneous Supplies and Expenses	3,224.35	
Feed	9,622.21	24,146.63
<hr/>		
College of Agriculture—Education		
Salaries of Instructors		43,633.40
Clerk Hire		1,755.00
Agronomy:		
Equipment	100.10	
Traveling Expenses	22.96	
Miscellaneous Supplies and Expenses	111.19	234.25
<hr/>		
Animal Industry:		
Equipment	79.74	
Traveling Expenses	67.97	
Office Supplies and Expenses	67.00	
Miscellaneous Supplies and Expenses	318.98	
Labor	59.55	593.24
<hr/>		
Horticulture:		
Equipment	5.12	
Traveling Expenses	28.51	
Office Supplies and Expenses	51.51	
Miscellaneous Supplies and Expenses	607.53	
Labor	1,497.72	2,190.39
<hr/>		
Bacteriology and Veterinary Science:		
Traveling Expenses	58.92	
Office Supplies and Expenses	6.70	
Miscellaneous Supplies and Expenses	146.34	211.96
<hr/>		

Biological and Agricultural Chemistry :

Equipment	47.59	
Office Supplies and Expenses	.82	
Miscellaneous Supplies and Expenses	170.58	218.99

Home Economics :

Equipment	80.81	
Traveling Expenses	42.48	
Office Supplies and Expenses	28.82	
Miscellaneous Supplies	542.05	694.16

College Extension :

Traveling Expenses	472.88	
Office Supplies	5.30	478.18

College General :

Traveling Expenses	175.84	
Office Supplies and Expenses	365.76	
Miscellaneous Supplies and Expenses	404.20	945.80

Forestry :

Equipment	7.76	
Office Supplies	3.30	
Miscellaneous	81.04	92.10

Vocational Agricultural Education :

Personal Services	6,155.60	
Expenses	985.04	7,140.64

College of Arts and Sciences :

	Equipment	Expenses
Salaries of Instructors	114,117.12	
Clerk Hire	826.14	
Stationery and Supplies	155.02	
Traveling Expenses	85.33	

Telephone & Telegraph		24.43	
Physics	267.03	314.21	
Mathematics & Astronomy	4.00	68.08	
English		200.41	
Spanish & Italian		88.07	
French		66.50	
Ancient History and Art		11.53	
German		21.72	
History		74.01	
Latin		10.30	
Biology	185.39	939.62	
Economics and Sociology	5.10	128.87	
Education		32.21	
Philosophy		3.82	
Music		12.93	
Public Speaking		89.90	
	<u>\$461.52</u>	<u>\$117,270.22</u>	117,731.74

College of Technology :

	Equipment	Expenses	
Salaries of Instructors		66,294.30	
Clerk Hire		1,137.18	
Stationery and Supplies		267.83	
Traveling Expenses		446.68	
Telephone & Telegraph		71.31	
Chemistry	917.16	5,468.46	
Civil Engineering	25.42	510.50	
Electrical Engineering	166.74	846.38	
Mechanical Engineering	223.66	970.13	
Mechanics		233.15	Cr.
Technology	21.71	152.15	
Engineering Drawing	2.00	590.72	
	<u>\$1,356.69</u>	<u>\$76,522.49</u>	\$77,879.18

College of Law :

Janitor Service		130.08	
Stationery and Supplies		18.76	
Law		400.14	548.98

Operation of Trucks and Automobiles:

Pay of Operators	550.67	
Supplies	1,065.13	1,615.80

Library:

Pay of Librarian and Employees	5,558.09	
Stationery and Supplies	212.63	
Books and Periodicals	3,919.36	
Miscellaneous Expenses	377.02	10,067.10

Laundry:

Pay of Employees	726.66	
Machinery-Expenses	54.14	
Miscellaneous Supplies and Expenses	282.19	1,062.99

University Press:

Machinery and Fittings—Equipment	72.19	
Machinery and Fittings—Expenses	202.30	
Pay of Manager and Employees	8,638.73	
Office Supplies and Expenses	117.44	
Power, Heat, Light and Water	358.24	
Stock Supplies including Freight and Express	7,768.42	
Repairs	136.81	17,294.13

Physical Training:

Salaries of Instructors	7,316.60	
Equipment	21.06	Cr.
Expenses	11,346.33	
Labor	8.80	\$18,650.67

Military Science:

Clerk Hire	5.25	
Equipment	304.88	
Expenses	858.54	1,168.67

1921 Summer School		7,514.67
Dormitories		108,892.99
Debit Inventory Adjustments		38,251.61
		<hr/>
		\$601,330.76
Current Operating Surplus	12,163.12	
Income Applied to reduction of Deficiency	22,500.00	34,663.12
	<hr/>	<hr/>
		\$635,993.88

Hotel and Dormitories—Statement of Income and Expenses

	University Inn	Mt. Vernon House	Mt. Vernon Annex	Oak Hall	Hannibal Hamlin	Balentine Hall	Balentine Annex	Commons	Farm Boarding House	Totals
Income:										
Income before Adjustment	15173.18	8747.69		3204.60	5220.28	29774.55	484.39	43417.40	4384.99	110407.08
Inventory Adjustments—										
Increases	470.02	527.52			3.56				20.72	1021.82
Deficit		701.41	474.46	581.54			613.05		1169.56	3540.02
	15643.20	9976.62	474.46	3786.14	5223.84	29774.55	1098.04	43417.40	5575.27	114969.52
Expenses:										
Superintendence	600.00	780.00				725.00	270.03			2375.03
Pay of Employees	2801.45	2030.66		1023.23	699.11	6530.43	49.65	8414.08	1081.32	22629.93
Heat, Light & Water	1401.16	994.07		2181.00	2920.25	2375.58	291.53	971.64	416.42	11511.05
Rental	412.50						216.00			628.50
Repairs	262.00	490.85		264.25	533.97	1012.58	56.18	337.12	61.36	3018.31
Food Supplies		5078.88				15477.73		30390.05	3548.94	62531.81
Furniture & Fixtures	8039.21									
Equipment	326.60	127.66	Cr.	246.59	201.82	74.86		219.67	82.37	631.53
Expenses	58.80	115.80	678.04	5.76	635.61	6.50	78.64	218.75	56.17	1176.33
Kitchen Utensils										
Equipment	37.24	43.25				282.98		707.71	24.30	1395.48
Expenses	4.75					15.75		60.05	1.66	82.21
Laundry	153.37	71.04		29.26	76.07	204.23	12.33	109.31	61.59	717.27
Miscellaneous Expenses	638.63	244.41	Cr.	24.50	129.60	517.90	10.66	755.52	191.12	2482.34
Expenses before Adjustment	14705.71	9976.62	678.04	3774.59	5196.43	27223.54	984.99	42183.90	5525.25	108892.99
Inventory Adjustments—										
Decreases	497.51		1152.50	11.55	27.41	528.59	113.05	396.58	50.02	2659.80
Surplus	529.98					2022.42		836.92		3416.73
	15643.20	9976.62	474.46	3786.14	5223.84	29774.55	1098.04	43417.40	5575.27	114969.52

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UNIVERSITY OF MAINE

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Co-operative Extension Work in Agriculture and Home Economics—Smith-Lever Funds

	Total	Federal	State
Income:			
Appropriation for Co-operative Agricultural Extension Work	75,623.68	42,811.84	32,811.84
Appropriation for Supplementary Extension Work	27,343.20	13,671.60	13,671.60
	102,966.88	56,483.44	46,483.44
Of the total shown under "state" \$9,183.08 was received and expended by County Bureaus.			
Expenditures:			
Summary statement of Expenditures by projects showing sources of funds			
Administration and Publications	14,247.34	5,411.70	8,835.64
County Agents	41,967.49	21,813.71	20,153.78
Home Economics	2,619.70		2,619.70
Home Demonstration Agents	22,951.30	21,410.72	1,540.58
Poultry Husbandry	3,104.80		3,104.80
Extension Schools	145.28		145.28
Dairying	3,354.47		3,354.47
Farm Management	4,532.62	3,498.93	1,033.69
Sheep Husbandry	1,846.12		1,846.12
Boys' and Girls' Clubs	4,348.38	4,348.38	
Crops	3,849.38		3,849.38
Totals	102,966.88	56,483.44	46,483.44
Summary statement of Expenditures by Items of Expense, showing sources of funds			
Items of Expense			
Salaries	66,820.29	37,673.76	29,146.53
Labor	130.28	43.62	86.66
Printing and Distribution of Publications	1,203.14		1,203.14
Stationery and Small Printing	2,980.27	2,181.19	799.08
Postage, etc.	445.03	250.60	194.43
Supplies	209.19	55.55	153.64
Library	182.18	35.94	146.24
Tools, Machinery, etc.	70.32	19.79	50.53
Furniture and Fixtures	530.80	196.21	334.59
Scientific Apparatus, etc.	163.50	155.00	8.50
Traveling Expenses	30,230.13	15,870.03	14,360.10
Contingent Expenses	1.75	1.75	
Totals	102,966.88	56,483.44	46,483.44

MAINE AGRICULTURAL EXPERIMENT STATION

ASSETS AND LIABILITIES

Assets:

Accounts Receivable	Schedule No. 1	\$ 4,808.56	
Inventories	" "	2	74,858.88
Plant	" "	3	90,800.00
			<hr/> \$170,467.44

Liabilities:

University of Maine	Schedule No. 4	27,563.05	
Accounts Payable	" "	5	1,112.87
Surplus			<hr/> 141,791.52
			170,467.44

SCHEDULE NO. 1—ACCOUNTS RECEIVABLE

Department of Agriculture, Analysis			
Account		3,113.46	
Aroostook Farm Barn Roof			
Replacement		1,695.10	4,808.56
		<hr/>	

SCHEDULE NO. 2—INVENTORIES

Aroostook Farm, Presque Isle	6,797.02	
Biological Laboratory, Orono	7,846.24	
Chemical Laboratory, Orono	9,245.54	
Entomological Laboratory, Orono	7,165.27	
Highmoor Farm, Monmouth	15,733.52	
Office and Library, Orono	22,066.90	
Plant Pathology, Orono	2,932.52	
Seed and Photographic Laboratory,		
Orono	3,071.87	74,858.88
	<hr/>	

SCHEDULE NO. 3—PLANT

Aroostook Farm, Presque Isle	25,000.00
Highmoor Farm, Monmouth	12,500.00
Incubator and Employees' House, Orono	1,800.00

Poultry Houses, Orono	3,350.00	
Holmes Hall, Orono	23,500.00	
Highmoor Farm Barn	24,650.00	90,800.00
	<hr/>	

SCHEDULE NO. 4—UNIVERSITY OF MAINE

Amount due the University represents bills
paid by the University for which it has not
been reimbursed 27,563.05.

Details:

Highmoor Farm Barn	24,650.00	
Aroostook Farm Barn Roof Replacement	1,695.10	
Operating Deficit Year 1920-1921	7,858.85	
State of Maine—Analysis Account	3,113.46	
	<hr/>	
	37,317.41	

Less:

Accounts Payable	1,112.87	
Operating Surplus, Year 1921-1922	8,641.49	9,754.36
	<hr/>	<hr/>
		27,563.05

SCHEDULE NO. 5—ACCOUNTS PAYABLE

Aroostook Farm—Potato Pathology	393.85	
—Horticulture	429.74	
—Soil Fertility		
Investigations	165.53	
Inspection Analysis Receipts	123.75	1,112.87
	<hr/>	

SURPLUS AND HOW EMPLOYED

Liabilities Decreased

University of Maine	12,171.80
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Assets Decreased

Due from State	2,897.56	
Accounts Receivable	99.38	
Inventories	1,226.59	4,223.53
	<hr/>	

Liabilities Increased

Accounts Payable	533.37	
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Surplus Increased	7,414.90	12,171.80
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Income and Expenses

	STATE						FEDERAL	
	Animal Husbandry	Aroostook Farm	Highmoor Farm	Inspection Analysis	General Account	Total	Hatch	Adams
Income:								
Appropriations:								
Animal Husbandry	5000.00	5000.00				5000.00	15000.00	15000.00
Scientific Investigations (Aroostook Farm)						5000.00		
Highmoor Farm			5000.00			5000.00		
Other Income								
Animal Husbandry Receipts	2275.29					2275.29		
Aroostook Farm		7991.61				7991.61		
Highmoor Farm			7258.62			7258.62		
State of Maine, Commissioner of Agriculture				12028.48		12028.48		
General Fund Income					2079.00	2079.00		
	7275.29	12991.61	12258.62	12028.48	2079.00	46633.00	15000.00	15000.00

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	STATE					FEDERAL		
	Animal Husbandry	Arroostook Farm	Highmoor Farm	Inspection Analysis	General Account	Total	Hatch	Adams
Expenses:								
Salaries—Administration						6339.59	6264.11	75.43
Salaries—Scientific Staff						10030.02		10030.02
Salaries—Scientific Staff Assistants						3867.15	231.67	3635.48
Salaries—Special and Temporary Services						200.89	8.00	192.89
Labor	2412.55	1165.00	1558.37	11416.57	15.59	2680.08	2331.08	349.00
Publications	16.08	3909.15	3854.44			16.08	50.78	
Postage and Stationery	57.18	34.00	66.12	24.63	.90	686.54	638.19	58.35
Freight and Express	164.19	56.62	221.60	98.64	2.24	255.19	234.04	21.15
Heat, Light, Water and Power	125.51	104.36	868.09	191.00	21.35	740.39	706.63	33.76
Chemical Supplies and Samples		65.25		187.77		253.02	34.75	
Seeds, Plants and Other Supplies	338.59	522.44	1889.19	23.88	53.69	2827.79	893.08	16.85
Fertilizers		1230.00	392.44			1622.44		
Feeding Stuffs	3027.31	604.28	654.02		3.48	4289.09	2191.55	137.22
Library	7.32					7.32	438.45	37.91
Tools, Machinery and Appliances		282.75	941.03		146.42	1370.20	236.62	
Furniture and Fixtures	7.48	79.93	88.54			175.95	34.34	
Scientific Apparatus			60.00	62.06		122.06	70.92	308.62
Live Stock	26.26	4.02	54.34	18.93	26.96	382.70	279.43	103.27
Traveling Expenses	35.96	62.35	13.00	5.00	33.74	392.09		
Contingent Expenses		278.00			47.75	380.90	366.36	
Buildings and Land	10.53	150.98	171.64					
Operating Surplus	6506.96	8271.13	10832.82	12028.48	352.12	37991.51	15000.00	15300.00
	768.33	4720.48	1425.80		1726.88	8641.49		
	7275.29	12991.61	12258.62	12028.48	2079.00	46633.00	15000.00	15000.00

Respectfully submitted,

CHARLES J. DUNN, Treasurer, University of Maine.

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